

COAL AGE

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The Cancellation Bugbear

FIRST the textiles, leather, rubber and allied industries and most recently the machine-tool industry have been worried by cancellation of orders. Business in these lines has been threatened with disruption because buyers refuse to take goods ordered before prices started downward. W. Randolph Montgomery, counsel for the National Association of Credit Men, recently said that it has been the boast of American business men that the last decade has seen an improvement in business morals; that when a contract was made, the goods would be taken and would be paid for. "Pious expressions about the sanctity of contracts are [now] as potent as the fourteen points were, confronted by the hatreds and passions of the European nations, when they met in conference two years ago."

So far this year, carelessness in observing contracts for coal has not been charged to the buyer but rather to the seller, who found in too many instances some basis for neglecting "options to ship," otherwise known in the coal trade as contracts, in order to sell coal on the higher priced open market.

It will be no new experience for the coal shipper to have consumers cancel orders, should that condition develop this year. Nor is the cancellation of business as serious for the producer of coal as it is for the producer of a manufactured article, because if the order for coal is withdrawn the coal is not mined and no capital is tied up in semi-finished or completed products.

With Regard to the Sherman Act

ADDRESSING the nineteenth annual convention of the National Machine Tool Builders Association at the Hotel Astor, New York, the second week in November, President Albert E. Newton is reported to have told his members that "any reduction in prices on machine tools will not stimulate demand, but is more likely to work to the contrary," a sentiment found to be general among members, according to the report of the meeting in *Iron Age* (Nov. 18, p. 1321). The president is reported also to have said that "There is only one cause that I know of that should either increase or decrease the price of machine tools, and that is cost. . . . The depression with which we are now contending is no new experience for us, and is not a surprise. . . . I believe most of our members fully realize that the values which accrue to them from the fruits of our association are proportionate to the time and mutual support given by them."

Can you picture the president of the National Coal Association advising his members that any reduction in prices of coal will not stimulate demand, but rather the contrary, or that the only cause justifying lower prices of coal would be decreases in cost? Can you imagine any official of any coal-men's association ad-

vising its members in any wise regarding selling prices? So far has the coal industry gone in following the spirit of the Sherman law that even information regarding the prices at which past business has been transacted no longer is exchanged.

Emphasizing Responsibilities

COORDINATION in economic groups to eliminate the great waste and misery of intermittent employment and unemployment was urged by Herbert Hoover, speaking as first president of the Federated American Engineering Societies in Washington on Nov. 20, 1920. Before this gathering of engineers representing every avenue of industry, the bituminous-coal industry was pointed out as one where bad economic functioning resulted in an average of but 180 days employment per year, a condition the solution of which would be greatly helped if a basis of co-operation could be found between the coal operators, coal miners, the railroads and the consumers. Mr. Hoover said: "The combined result would be a higher standard of living to the employee, reduced risk to the operator, fundamental expansion of economic life by cheaper fuel. With our necessary legislation against combinations and the lack of any organizing force to bring about this co-operation, the industry is helpless unless we can develop some method of governmental interest; not in governmental ownership but in stimulation of co-operation and better organization."

Mr. Hoover did well to include the consumers among those whose efforts are needed to improve the balance in the soft-coal industry. The fate of the industry at all times is in the hands of the consumers. Compare, if you will, the business of raising and marketing wheat with that of bituminous coal. The farmer raises the wheat, and either the farmer, the local or terminal elevator or the flour mill keeps the product in stock to meet varying demands. The producer of coal must leave his product stored as nature put it—under ground, unmined—until the consumer calls for it either for storage or for consumption.

The "bad functioning" of the bituminous-coal industry, held up as a horrible example, is not the fault of the producer. The education of the men in the coal-mining industry in the fundamental economic facts controlling the success of their business should be considered but a step in the education of consumers. We do not believe with Mr. Hoover that the industry is helpless unless there is developed some method of governmental interest in the stimulation of co-operation for better organization. Rather we think that the need is to stimulate the interest of the business men—the men who control the functioning of our coal-consuming industries, including the railroads and the public utilities—in their responsibility for the proper functioning of the coal industry. The real problem is

to bring these men to a realization that the relief they seek against high prices for coal, from periods of shortage and from shipments of inferior product lies along the purely selfish lines of common sense. Consumers must realize the fundamental fact that they are the arbiters of their destiny, and not the producers. Once the coal consumer appreciates these facts there will be created proper governmental interest in collecting and furnishing him the facts about coal.

Mining coal cheaply, safely, and with due regard to its conservation as a great natural resource, and the placing of that coal, properly prepared, in railroad cars,

is only one-half of the industry in coal. The other half is distribution and merchandising of this product at a profit and with due regard to sane business methods.

Coal Age believes it can best serve the industry by serving not only those who produce the coal and those who merchandise it but those who must buy it as well. We seek to forward the "co-ordination in economic groups" for which Herbert Hoover speaks, and our interpretation of that general expression is that production and selling of coal must be linked up with intelligent buying of coal.

Federated Engineering Societies Perfect Organization; Twenty-one Associations Represented

TWENTY-ONE engineering societies with an aggregate membership of more than 60,000 have perfected the organization of the Federated American Engineering Societies and selected Herbert Hoover as their first president to lead them in their program to place the engineer properly in relation to public affairs and to make the engineer's voice heard in matters of national concern. These sessions were held in Washington, D. C., Nov. 18 to 20, inclusive.

This organization of the Federated American Engineering Societies has been perfected through the efforts of a joint conference committee, representing the four large engineering societies in the fields of electrical, mechanical, civil, and mining and metallurgical engineering. At the beginning of this organization's meeting Richard L. Humphrey, who has served as chairman of the joint conference committee, set forth the general function of the work and emphasized the keynote of the conference when speaking of the large responsibility of the engineer to make useful his "capacity for leadership."

MEETINGS AND RECORDS OPEN TO PUBLIC

Societies accepting membership before July 1, 1921, will be regarded as charter members of the federation.

The two problems which were debated at greater length than any others during the entire conference related to matters of publicity and the location of headquarters of the federation. Apparently largely in recognition of the fact that all the work of the federation must be obviously in the open and without the suspicion of secret machinations, it was finally decided that every phase of the federation work should be regarded as public. Not only will all sessions of the council, the executive board and committees, except executive sessions, be open to any proper person, but also all records of the meetings as well.

Since the Federated Societies will deal largely with national problems, it was decided that Washington was the proper location for its headquarters. Another factor in this selection of Washington was the feeling that seems to prevail, especially in certain Western societies, that New York influence in the federation work should be reduced to a minimum. It is recognized that in dealing with public matters at least a branch office in Washington would be essential, and the necessity for the establishment of two offices was to be avoided, if possible, by this means.

In view of the fact that the American Engineering

Council (the name of the working body made up of delegate societies of federations) probably will take over the activities of the Engineering Council which has been operated for several years by a limited number of societies, there was special importance attached to the report of the work of the Engineering Council made by J. Parke Channing, its chairman.

As typical of problems to be considered by the Federated Societies, there were presented briefly during the conference two or three important discussions on transportation, labor and similar subjects. L. B. Stillwell discussed the problem of highway transportation, pointing out particularly the economic waste resulting from inadequate regulation of highway traffic by heavy trucks.

STATES ENGINEERS' PART IN LABOR PROBLEM

The problems of labor were treated in the presidential address of Herbert Hoover before the final session of the council. In treating of this subject the engineering problem was particularly well presented in the following comment:

This engineers' association stands somewhat apart among these economic groups in that it has no special economic interest for its members. Its only interest in the creation of a great national association is public service; to give voice to the thought of the engineers in these questions. And if the engineers, with their training in quantitative thought, with their intimate experience in industrial life, can be of service in bringing about co-operation between these great economic groups of special interests, they will have performed an extraordinary service. The engineers should be able to take an objective and detached point of view. They do not belong to the associations of either employers or labor, of farmers, or merchants or bankers. Their calling in life is to offer expert service in constructive solution of problems to the individuals in any of these groups. There is a wider vision of this expert service in giving the group service of engineers to group problems.

In order that the Federated Engineering Societies might lend their support immediately to several important projects, the executive board passed resolutions in support of the following projects: (1) The compilation and preparation of critical tables of physical and chemical constants, as undertaken by the National Research Council. (2) The proposed federal department of public works, as advocated by the Engineering Council. (3) The proposal by Mr. Hoover for the investigation of industrial waste and authorizing him as president to form an organization under the auspices of the federation, to work immediately to this end. It is probable that this work on labor relations and elimination of industrial labor wastes will be the first project actively fostered by the federation.

Herbert Hoover Elected Head of American Engineers

Herbert Hoover was elected president of the Federated American Engineering Societies Nov. 19 by the Federation's Council in session in Washington. Mr. Hoover is head of the American Institute of Mining and Metallurgical Engineers, one of the thirty organizations making up the Federated Societies.

Judge Upholds Landlords in Conserving Coal Supply

Asserting that if the expected coal shortage comes coal can be used to better advantage later in supplying heat than now in supplying hot water every day, three landlords in the New Jersey Avenue Court in Brooklyn were discharged. They were arraigned on charges of failing to supply hot water.

New Shipping Board To Be Organized Dec. 1.

When the new Shipping Board, composed of Rear Admiral W. S. Benson, reappointed as chairman for six years; F. I. Thompson, of Alabama; J. N. Neal, of Oregon; J. A. Donald, of New York; C. H. Rowell, of California; G. D. Goff, of Wisconsin, and Charles Sutter, of Missouri, holds its first meeting in Washington, Dec. 1, a general discussion of the whole shipping situation and future organization of the board will be held. One matter to be determined is whether any recommendations are to be made to Congress for amendments.

Commerce Commission Approves More Loans to Roads

The Interstate Commerce Commission has approved a loan of \$1,840,700 to the Erie R.R. to aid in reconstructing freight-train equipment, making improvements to existing equipment and for additions and betterments to its roadway and structures, estimated to cost \$6,680,000. The company itself is required to finance about \$4,840,000. The commission also has approved a loan of \$9,630,000 to the New York, New Haven & Hartford to aid in providing equipment and additions and betterments to way and structures at an estimated cost of \$13,525,000.

Gas Men Attribute High Price To Coal Cost

The American Gas Association, in annual convention at the Hotel Pennsylvania, New York, Nov. 16, placed the blame for present high gas rates upon the shoulders of oil and coal interests. Philip H. Gadsden, chairman of the emergency committee, said in part: "Our financial reserves are wiped out and our credits impaired. The ten-cent boost in gas oil by the gallon boosts the cost of gas

35 to 40c. per 1,000 cu.ft. We cannot get coal enough even at tremendously high prices. Let the public decide whether the oil man and the coal man shall reap enormous profits at the expense of so essential an industry as ours."

Oil Consumption Grows Rapidly

R. L. Welch, general counsel and secretary of the American Petroleum Institute, stated Nov. 16 at the convention of the American Gas Association in New York that the rate

NEWS BRIEFS

Terse Items Chronicling Events of Interest to the Industry

of oil consumption in the United States is increasing so rapidly that the demand will reach 1,000,000,000 barrels a year and that amount can readily be absorbed.

Pennsylvania R.R. Makes Record

The highest recorded volume of freight traffic ever transported in the history of the Pennsylvania Railroad system was handled during the month of October. Reports from all divisions show that during the month an average of nearly 24,000 loaded cars per day, or 167,461 per week, were forwarded to their respective destinations. This represents more than 870,000 tons of freight a day, or over 6,000,000 tons a week, loaded on the Pennsylvania Railroad, or accepted by it from connecting lines.

Belgian Miners Resume Work

Coal miners in the Charleroi district, Belgium, who have been on strike for more than a week, returned to work Monday, Nov. 15, the strike ballot failing to show that 70 per cent of the men favored the strike, which was necessary for its continuance, as required by the miners' Federation rules.

Petroleum Output Gains

Production of petroleum made a new record in California during September, when the average daily output rose to 304,340 barrels.

Engineers Launch New National Program of Public Service

The American Engineering Council of the Federated American Engineering Societies at a meeting at the New Willard Hotel, Washington, D. C., Nov. 19, launched a national program of public service, the chief features of which are: Conservation of the nation's resources in coal, oil, timber, water power, etc.; immediate work upon the national problem of transportation; solution of the relations between capital and labor, in which the engineer, from his comparatively impartial point of view, is believed to be especially equipped to make recommendations; creation of a national public works bureau by means of a reorganization of the Department of the Interior, co-operation with the Drafting Bureau of Congress in its work of preparing for a national budget system, and guiding legislation for the licensing or registration of engineers.

Revival of Lighting Restrictions Darkens Paris at 12:30

As a result of the British coal strike Paris has revived lighting restrictions in order to save coal. With arc lamps lit in the main arteries of the city, with the cafés remaining open until 1 o'clock in the morning, Paris at night had regained much of its old physiognomy and its reputation of "La Ville Lumière." Now lighting restrictions are again imposed. Since Sunday, Nov. 14, the cafés have been closing half an hour after midnight, and motion picture houses, theaters and concerts at 11:30.

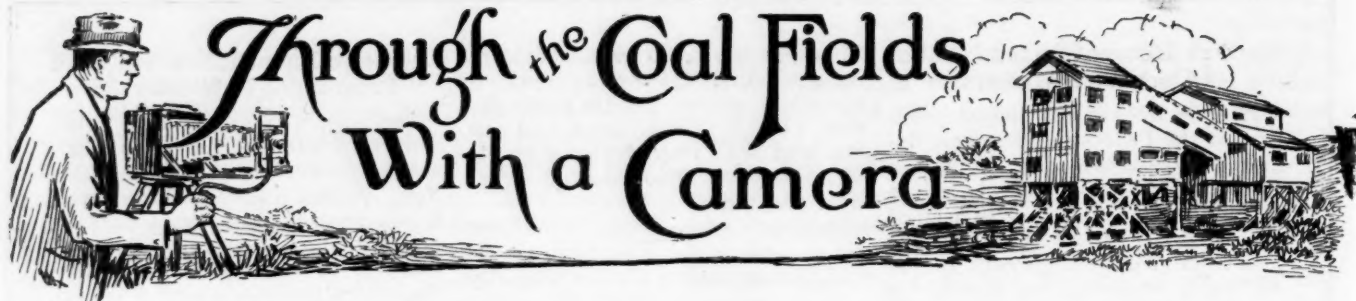
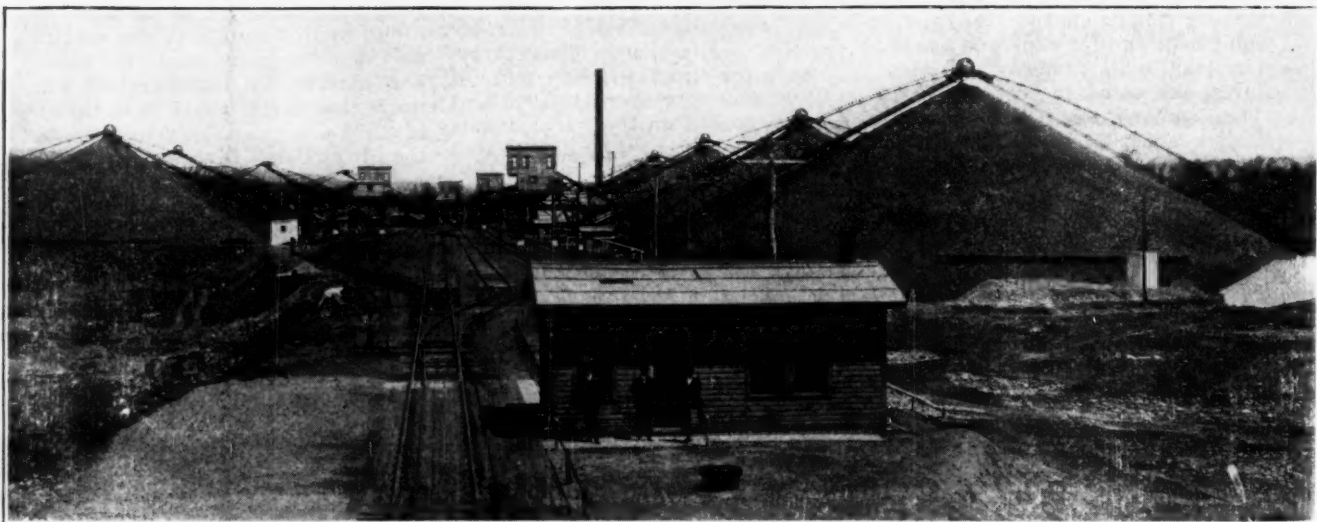
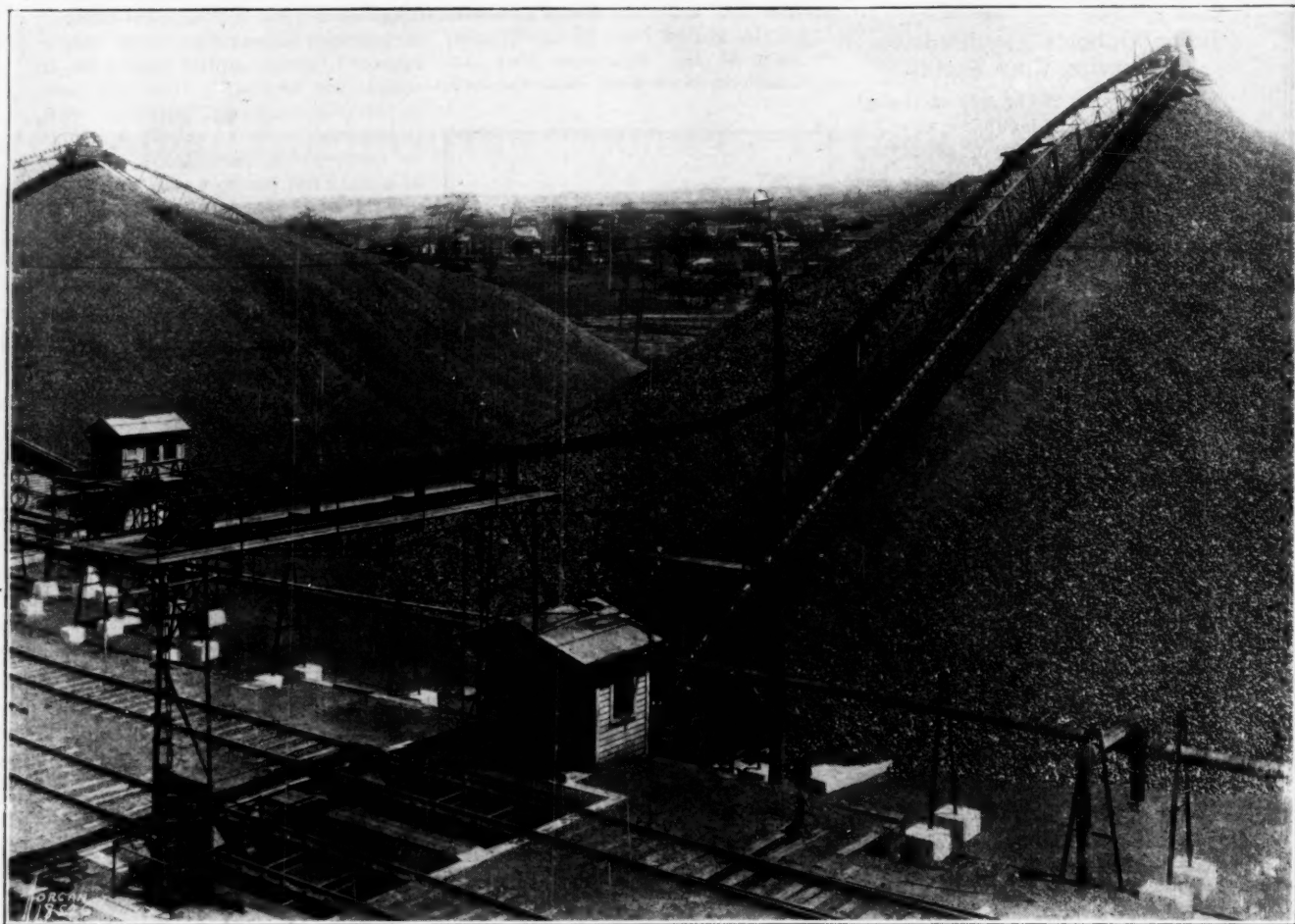
P. R. R. Drops 2,850 Men

In anticipation of a traffic slump this winter the Pennsylvania R.R. dropped from the payroll Nov. 12 1,350 men employed at its Altoona shops, approximately 15 per cent of the total number employed there, and on Nov. 15 announcement was made that there would be a lay-off of 2,500 more men, 1,000 of them on the Philadelphia Division, within the next five days. Fifteen hundred of the employees will be laid off in the Central Pennsylvania Division. At Williamsport, where it is announced 505 will go, the majority will be car shop employees. Since the end of October there has been a total net reduction of over 10,000 employees of the Pennsylvania system, most of them east of Pittsburgh.

Canadian Development Planned

Plans are being formulated for gigantic transportation and industrial development in western Canada jointly by the Pennsylvania R.R., the Canadian Pacific Ry., the Essex Terminal Ry. and the Canadian Steel Corporation, involving the expenditure of \$200,000,000.

Through the Coal Fields With a Camera

Storing Anthracite Coal in Large Quantity

As anthracite coal will not heat appreciably when stored, it may be safely stocked out in the weather to any depth. The two photos above show a detailed and a general view of a storage plant.

Coal is dumped from hopper-bottom cars into a track bin. From here it is taken by a scraper conveyor extending up one leg of the stocking derrick. Doors in the bottom of the trough per-

mit the discharge of the coal at a point slightly above the top of the pile. Reclaiming is done by another scraper conveyor that moves along the ground and gathers the coal to the railroad tracks.

An Emergency Governor with Hoist Recorder Gives Data on Safety and Efficiency

Emergency Governor Slackens Speed, if Excessive, and Stops Overwinds—Recorder Shows if Governor Has Acted to Prevent Either Tendency—Chart Records Signals, Hoisting and Standing Time and Governor Tests—Indicates How Hoisting Can Be Bettered Economically

BY G. F. ROYER
Wilkes-Barre, Pa.

STUDY of the development and use of emergency governors (often miscalled overwinders or overwind preventers) have revealed that many attempts have been made to prevent automatically overwinding and over-speeding. Descriptions of devices of this kind are found dating back to the early days of steam hoisting, and possibly even further. However, in the absence of any specific date, which can be positively shown to mark the beginning of the idea, Oct. 10, 1868, may be taken as the approximate starting point.

Upon that date a patent was issued by the United States Government to Ottis and Schmitt, wherein the principle of centrifugal force operating through a predetermined distance was employed to prevent accidents. Since that time, as the patent records show, many inventors, American and foreign, have attempted to increase the safety of hoisting.

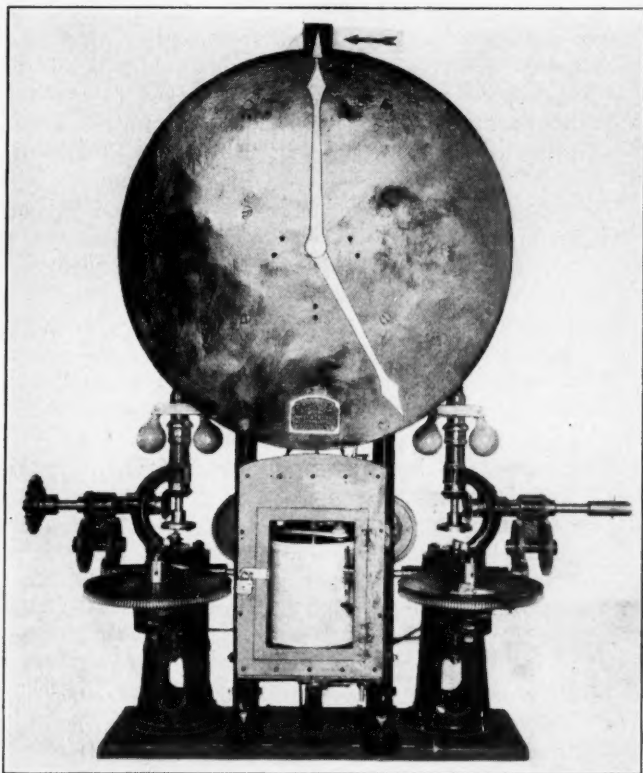


FIG. 1. EMERGENCY GOVERNOR FOR CONTROL OF CLUTCH-DRUM HOISTING ENGINES

This governor is equipped with a recorder attachment which keeps a spiral record detailing the running of the hoist, showing not only the number of hoists and the time at which they were made, how long a period the hoists took, the length of delays, but also when the governor was tested, what signals were given and from what points—the surface or the landing.

Many of them have been tried out and cast aside for lack of real value. Others, being somewhat more meritorious, have been retained, some of them even to the present day. It seems to have been the usual object of the inventors not so much to control as to assist the hoist operator in the performance of his duties. One of these machines which was adopted quite extensively, although complicated and expensive to install, could be adjusted so that the hoist could be started by hand, and it would then be so controlled by the machine that it would bring the cage automatically to rest at the landing. This could be repeated as often as desired.

GOVERNOR OFTEN STOPPED CAGE AT WORKING PLACE

On account of the varying weight to be hoisted and the irregularities in steam pressure, the cage would not come to rest at a fixed point, and it became necessary under certain frequently recurring circumstances for the engineer to cut out the governor by means of a lever provided for that purpose and so bring the cage to the landing.

While this type of governor did not give complete protection, the fact that it was used extensively, and that some machines of this variety are still employed, proves that many mine operators early realized that there was a necessity for protection against the danger of overwinding. They were therefore willing to make the necessary expenditure for a governor that would give even partial protection.

It is not my intention to write a history of the development of the emergency governor, except in so far as may be necessary to substantiate my conviction that these machines have now reached such a state of perfection (whether considered from the humane or business standpoint) that no company operating hoists can afford to be without the protection they give. The dangers of hoisting may be divided into two parts, the mechanical and the human hazard. While these perils are distinct, they are interdependent and both have to be carefully considered if safety and economy are to be secured.

SAFETY NEEDS OF MECHANICAL EQUIPMENT

In order to be sure that this mechanical hazard is reduced to a minimum, the cage must be of ample strength and approved design. The guides must be properly anchored; the dogs or safety clamps must be reliable and in good condition. The cable must be of the required tensile strength to handle the load at the speed desired. The sheaves must be of sufficient diameter and the groove of the correct contour to prevent

undue stress and wear on the rope. The tower must be constructed in a proper and safe manner. The hoisting rope must coil properly on the drum of the hoist, which must itself be of sufficient strength to withstand the centrifugal force and the crushing stress, which is increased by every succeeding coil of the rope.

This drum must also be strong enough to withstand the torsion caused by the acceleration and retardation of the load and the sudden application of the brakes. The brakes themselves must be capable of bringing the hoist to rest within safe limits, while engine or motor must have sufficient power to perform safely the work imposed upon it.

Many other like details must be considered under the general head of mechanical hazard. Most of the equipment subject to failure can be readily seen and inspected and many of the individual parts are actually inspected every day. This is doubtless the reason why some of the reports and statistics state that "the shaft is the safest place in and about the mine."

While doubtless it is true, with few exceptions, that the shaft is comparatively safe, it has not always been so. Because the dangers are readily apparent they are unfailingly considered by those in charge of operations. Even subconscious cognizance of their existence develops rapidly into an acute stage whenever minor accidents or slight irregularities in hoisting occur. Because these dangers are always obvious operators have been willing to accept the assistance of hoist builders in the elimination of shaft hazards. The builders on their part have always been willing and anxious to go to any reasonable length to minimize the hazard encountered in the operation of their machines.

"HOIST THE CAGE AND I'LL LET YOU KNOW"

How slight an accident or irregularity in operation will attract the attention of those in charge and how careful they are to ascertain the cause before continuing regular operation, may be judged from this account of a somewhat peculiar occurrence which transpired at Luzerne, Pa., while I was in the engine room of a coal-mining company. On an idle day when adjustments were being made in an emergency governor which had just been installed, the cage was being slowly hoisted to the landing.

When the machine came to rest the engineer remarked that something was wrong down below. On calling the bottom by 'phone he asked: "What is the matter down there?" and received the reply: "There is a mule in the sump and you dropped the cage on him." The next question by the engineer was "What the h— is that mule doing in the sump?" The reply was: "Hoist the cage off him and I'll let you know."

It developed that a mule had wandered into the sump, and while hoisting the cage to the top landing, the opposite cage had descended upon the mule, forcing him to a prone position, his body supporting the whole weight of the cage, and holding it about 16 in. above the landing point. Strange as it may seem the beast was not seriously injured.

I was somewhat at a loss to understand how the engineer was led to believe that something was wrong down below, some 750 ft. away, at the end of a cable. Whatever he noted it was certainly neither a jar nor noise. Upon asking him, however, he made it clear by replying that he had observed extra slack in the cable. This, of course, was caused by the cage resting on the mule.

This occurrence dispelled any lingering doubt that I may have entertained as to why the mechanical hazard had been so thoroughly taken care of. It has firmly convinced me of the soundness of my opinion that this peril is so obvious that it is bound to receive prompt and serious consideration.

Let us now consider and analyze the human hazard in connection with hoisting. This differs from the mechanical, which is a created peril—created chiefly by the necessity of performing dangerous operations. The human hazard, on the other hand, is always with us, according to our measure of intelligence and general fitness for performing work to which we are assigned. And considering that over-winding is possibly the greatest danger encountered in connection with hoisting, it can be readily understood why the engineer or hoist operator is so carefully selected.

ENGINEER ALWAYS LIABLE TO MAKE MISTAKES

Just what rules, regulations, customs or criteria are followed in selecting men for operating hoists, I am unable to say. This much is certain, however, regardless of the rigidity of the examination they may be called upon to pass, they themselves form a tangible peril. Being human they carry with them into their hoisting operations the human hazard, which, regardless of any test, examination or trial, cannot be altered, since it is a hazard of the mind of man, which is frail at best. This mind, resourceful or dependent, active or sluggish, accurate or eccentric, sensitive or careless, may be easily changed from the reliable to the unreliable by mental or physical condition.

All these contradictions show the weakness of man which is the weakness of John the engineer. On account of John's long and almost perfect record, we sometimes forget this personal hazard and rest assured that what he has done hitherto he will continue to do. Not infrequently, however, we are suddenly roused to the fact that this hazard has grown stronger as John has grown weaker, and we pay for our trustfulness by destruction of property and often by loss of life. John is then no longer classed as a good engineer, but on account of his long and faithful service is designated as *having been* a good engineer. Even this small measure of credit is seldom unanimously accorded.

In order to fully appreciate the efficiency of a hoistman, who after ten years of hard service has earned and still retains the distinction of being a good engineer, we must have an expert knowledge of the duties and the responsibilities that his position entails. His duties consist in hoisting and lowering cages in the shaft and bringing them to rest at a given point. These cages attain a speed of 1,500 to 2,000 ft. per min. Thus in a busy shallow shaft a trip is made every 30 sec., and this operation must be repeated hundreds of times a day or over 100,000 times every year.

A REVOLUTION TOO MANY MAY SPELL DISASTER

If the hoist operator overruns the landing point from two to three feet, minor accidents and delays will result. Overrunning the landing by one revolution of the drum may cause a serious accident or even loss of life. When we consider the power of the machine which he handles, the thousands of times that he must start, accelerate, retard and stop the hoist at a given point, note the constant concentration of mind necessary to perform this work, and recall that a moment of forgetfulness may be fatal, we may begin to appreciate the

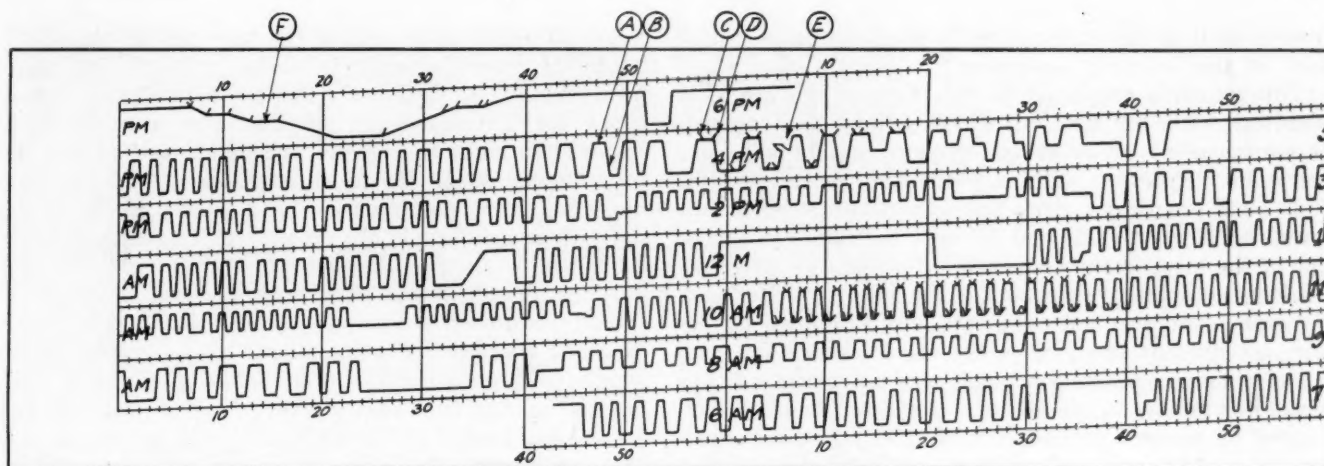


FIG. 2. CHART RECORDS ALL THE DETAILS OF A TWELVE-HOUR RUN

At the end of the day, the manager or superintendent can analyze the day's run, see where needless delays occurred and hunt for their causes. The short "teeth" show hoists made from an upper landing, the longer "teeth" the runs made from a lower level.

strain under which he labors and to understand what "a good engineer" means.

It may be thus appreciated that the hoist engineer is performing and has been performing in the past one of the most exacting duties that fall to the lot of man. Such a man is beyond question entitled to all the protection and aid that can possibly be given him. We must, also, if fair-minded, be charitable when he makes a mistake.

In looking over the patent papers of fifty-two inventions for eliminating the dangers of hoisting, I find fifty-two variations of only two principles. The devices were of all grades of usefulness from those possessing much real merit to those that illustrate only that the inventor lacked knowledge and sound mechanical judgment. Two of the early inventions, however, seem to possess so much real merit that I believe only a lack

of business judgment or the absence of an opportunity to prove their value prevented their being perfected and made a part of present-day hoisting equipment.

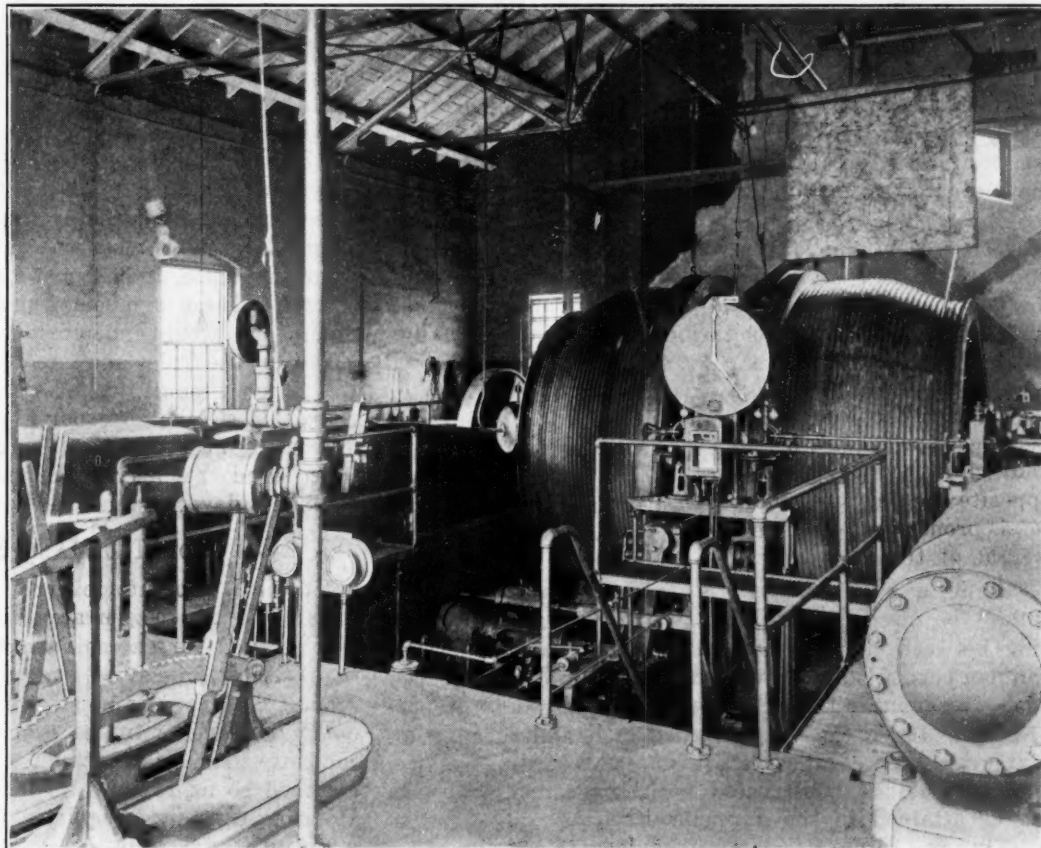
One of the two principles followed has been to assist the engineer in performing his work by automatically stopping the hoist at the end of each trip. Governors constructed upon this principle may be properly called automatic. The other principle is to stop the hoist in emergencies, that is, whenever the machine is being operated at a dangerous speed or is not being retarded sufficiently upon approaching the landing. This might be called an emergency governor.

Automatically assisting the engineer in the performance of his duties gives at best only partial protection. Only a few machines of this type have been developed. The emergency brake, however, has made greater progress and has been improved from time to

FIG. 3

Steam Hoist

A 30 x 48 direct-connected clutch-drum Vulcan hoist equipped with an emergency governor with a recorder attachment. With a record of achievement or the reverse plainly visible on the day's chart everyone is spurred to increased effort. Where there is no tangible evidence of efficiency, there is apt to be none exhibited.



time until it is now recognized by many as an essential part of the hoisting equipment.

The principle employed in this type of governor is identical with the first of which I have any record. It embraces as an essential element the fly-ball governor in connection with a predetermined movement. It is built practically along the same lines as those followed by Messrs. Ottis and Schmitt in 1868. Probably one of the most important reasons for the slow progress made by emergency governors is the lack of co-operation between inventors, and engineers and mine owners. It was not difficult to convince the mine owner that such a governor was necessary, but it was extremely hard to make him believe in the absence of specific proof (which cannot be secured without actual trial) that such governors would furnish adequate protection under existing conditions in his particular mine.

The owner has no desire to create a hazard for the purpose of practical demonstration, and it is probable that a majority of first orders for these machines were not given in the belief that it was good business, but with a desire to do everything within reason to protect the lives of the workmen. The uncertainty as to the efficiency of these devices has never been entirely dispelled.

Another reason why the emergency governor has been slow of adoption has been the lack of a real understanding of the part these devices play in preventing overwinds. This doubtless is the fault of the manufacturers, who, intentionally or otherwise, have conveyed the impression that an emergency governor of itself alone prevents such accidents. As a matter of fact, these devices are only instruments composed of well-known mechanical movements so arranged that they mechanically put into operation the means provided for bringing the hoist to rest. I believe that sufficient stress has not been laid upon the fact that an emergency governor is useless unless the brake, the reverse and throttle are reliable and easily manipulated.

DEFECTIVE DEVICES MAY DISCREDIT GOVERNOR

The devices sometimes employed to close the throttle, apply the brakes and even reverse the hoist when necessary, have been of such crude construction that they have created uncertainty in the minds of operators and engineers and so have retarded the adoption of the governor from which these devices receive their power.

What would constitute an ideal governor? It should be one that in an emergency not only brings the hoist to rest by setting in operation the available braking power, but a device that is simple in construction, reliable in operation, easy to understand and operate, and as it is a mechanical hazard built for the purpose of controlling and confining the human hazard within bounds it should act instantly and accurately when called upon to prevent the destruction of property and possibly that of life. It should be as purely mechanical as possible and safe primarily within itself.

While a governor constructed as above described might be mechanically ideal and bridge the gap existing between the two hazards, control and confine the human peril within prescribed limits and thereby reduce danger to a minimum, it would still fall short of perfection. It should have attached to it and forming an integral part of its mechanism, a recording device. This should be constructed with the same perfection as is attained in the governor itself.

This recording attachment should give a daily 24-hr.

record of every movement of the cage within the shaft. It should record every trip made by the hoist, show from which landing the trip was made, mark the signals given for the movement of the cage and the time required to make the hoist. It should, also, record the time during which the hoist was at rest and the time consumed in inspecting the shaft as well as show the time when the signals are given and if from the upper or lower landing. Furthermore, it should register whether these signals have been properly obeyed. It should record all delays as well as the loss of time incurred thereby. Finally, above all it should record whether the governor has been tested or is out of commission at any time and whether for any cause it had applied the brakes and brought the hoist to rest in case of emergency.

The governor that will do these things or cause them to be done is not only the ideal appurtenance for a hoist but is one that is positively necessary from both a humane and a business standpoint. All this is claimed for the governor shown in the accompanying illustration, which is the latest simplified type of the Roybel emergency governor with the recording attachment which is now made a part of the device. The attachment gives a daily 24-hr. record.

The chart (see Fig. 2) is a printed form and bears upon its surface parallel spiral lines divided into sections by perpendiculars. These sections representing 10-min. periods are designated by figures. The sections are themselves further spaced off into minutes. The chart is placed upon the cylinder of the recorder, the end lapped covering the circumference of the drum and making a continuous spiral of these parallel lines, between which the tracings made by the movements of the cage are drawn.

GRAPH SHOWS WHEN GOVERNOR REGULATES SPEED

Lines designated by A, which are parallel with the spiral lines, are traced while the hoist is at rest. Lines B are made when the cage is in motion, their angle being increased or decreased from perpendicular according to the speed at which the hoist is operated. Symbol C, which is traced at right angles to line A, is caused by the signal being given at the bottom landing.

Symbol D, which is at right angles to symbol C, is caused by the signal being given at the upper landing. Symbol E is made when the governor is tested or when, from any cause, it has operated and brought the hoist to rest. These symbols when appearing at a certain time of day would indicate that the governor was being tested as the rules may require. When appearing at any other time it would show that some emergency arose causing the governor to operate, probably thereby preventing an overwind. Beginning at the bottom, the chart, when removed from the drum of the recorder, may be interpreted as follows:

The chart was placed upon the recorder at 5:43 a.m.; at 5:45 hoisting operations began, continuing regularly until 6:33, when a delay of eight minutes occurred. At 8:41 a trip was made, but on the return the cage was stopped for one minute at one of the lower landings. After a delay of two minutes hoisting was again resumed. Irregular hoisting is shown at 7:24, when a delay of eleven minutes occurred. At 7:41 the lines indicate that by means of the clutch the hoist was changed so as to take its load from a different level. Hoisting continued regularly from 7:45 to 9:23, when a delay of five minutes again occurred.

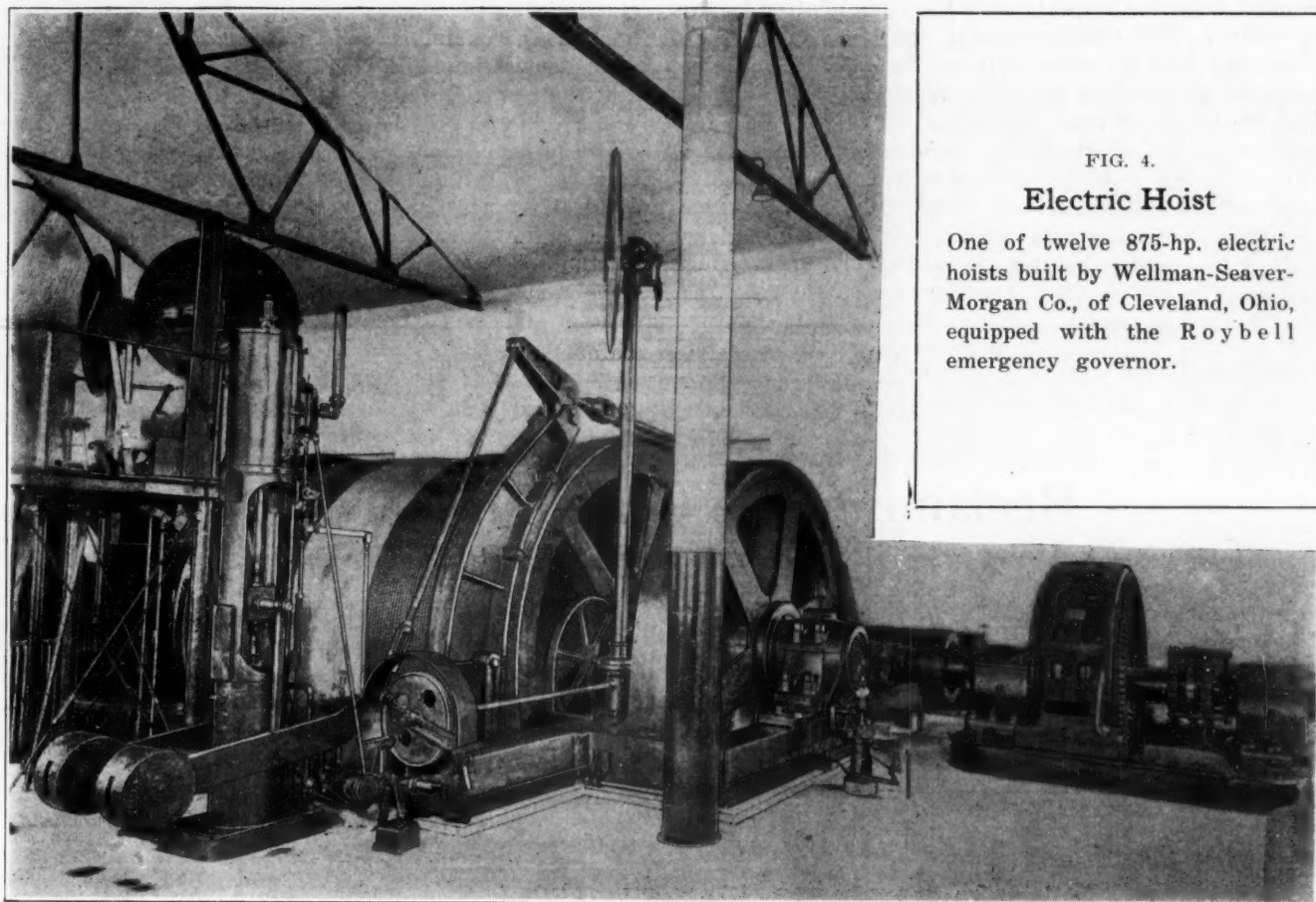


FIG. 4.

Electric Hoist

One of twelve 875-hp. electric hoists built by Wellman-Seaver-Morgan Co., of Cleveland, Ohio, equipped with the Roybell emergency governor.

At 9:31 a.m. a delay of three minutes is shown. Three minutes were consumed in bringing the cage to the top landing and a rest of three minutes was made at this point. Tracings of this kind occur in the event of hoisting a sick or injured man to the surface, or when from any cause it is necessary to secure a slow movement of the cage. Lines designated by *F* signify that the cage was traveling slowly as when the shaft is being inspected. In this instance the graph shows that the inspection started at 5:07 p.m. and that 14 min. were consumed in making this inspection, while the return trip shows practically the same time was occupied in inspecting the opposite compartment.

HOW ECONOMIC USE CAN BE MADE OF RECORD

While the chart illustrated shows only 12 hr. of operation, the regular chart affords a 24-hr. record. When fully understood the graph is readily followed, and irregularities or bad practice are recorded so plainly that they may be detected without effort. The chart reproduced reveals the fact that there has been a delay in hoisting during the busy hours aggregating 40 min. This in many instances would be equivalent to a loss of eighty trips. It is almost certain that some of these delays are unavoidable. An investigation as to their cause could be made, and the result of any remedy applied for their elimination would show on succeeding records.

Instances are not uncommon wherein delays have occurred daily for months but have been unknown, not from lack of proper attention on the part of those in charge but through a belief that the efficiency of the plant was above the average. In one instance the company had expended much money in the installation of improvements such as self-dumping cages and had made

many other alterations for the purpose of keeping the hoist in continuous operation. It had, however, overlooked one important fact which was disclosed by the recorder.

This hoist was equipped with a hand clutch, and it was frequently necessary to change the cage elevation so as to hoist from different levels. This required the assistance of extra help, but was performed with much precision and in such a short space of time that it appeared that no improvement in this respect could be made. The first reading of the chart showed that these changes, which of themselves seemed unimportant, caused delays during the day amounting to approximately 28 min. All these time losses occurred during the busy period.

This appeared regularly on the chart for three days, and to reduce it a steam clutch was ordered and installed. This resulted in a 50 per cent reduction in delay, and an increased output of 80 tons of coal daily. This, of course, occurred at an extremely busy shaft where it was possible to supply a greater amount of coal to the bottom than could be hoisted to the surface. I have no doubt, however, that many delays of this nature, escaping the attention of those in charge and in themselves considered unimportant, are, nevertheless, the cause of appreciable loss that might be eliminated if they appeared daily or even frequently on a record of operation.

HOW RECORD ASSISTED IN COAL PREPARATION

To show the value of a daily record in a shaft wherein conditions are the opposite of those related and where the question of daily output has no bearing, the following occurrence, which happened in an anthracite mine, may be cited: The output from this colliery could be

hoisted from the slope in half the time allotted to this operation. The practice among the employees was to allow the coal to accumulate at the bottom and then hoist to the surface rapidly. When the accumulation had been cleared away the slope would lie idle again until a second accumulation occurred. The result of this practice was that the breaker was fed at irregular intervals, causing inefficient preparation and considerable loss to the company on this account. A governor with a recording attachment was installed and through its use this bad practice was corrected. When the coal was hoisted at regular intervals it was better prepared and enabled the company to make larger profits.

Although the governor was adjusted so that the engineer could hoist only at a predetermined speed, the

records showed conclusively that the morale of those in charge was improved and that orders given them were obeyed implicitly because they were fully aware that their part in hoisting operations was recorded and would come before the mine superintendent every day.

Improvement in the morale of those responsible for hoisting operations is not confined to these particular cases. If it is known by those employed in hoisting that their shortcomings cannot be shifted to the shoulders of others and that daily reports of their habits come directly before the superintendent of the mine, it will at least cause an endeavor on their part to maintain a high standard. This helps materially in eliminating the dangers of hoisting and increases the general efficiency of the entire plant.

Reclaiming the Coal Mines at Lens

BY E. J. MEHREN
New York City

WORK is now in progress at Lens, France, on the reclamation of coal mines. The walls of the destroyed shafts through which water found entrance to the mines are being made tight by forcing cement through the rings of boreholes which have been

drilled around each of them. On June 22 this operation had been completed at two shafts and was in progress at four others, and at the four remaining shafts requiring treatment work had not been begun. Such was the progress that had been made, however, that it was

New Headframe

A temporary but substantial structure erected over No. 3 shaft at Lens. In the rear can be seen the mass of ruins which German devilry created out of the elaborate headworks that French skill had erected.

Photo by Central News Service



New Water Tower

War relics are still in evidence. In the background can be seen some of the army huts which the French miners are using, now that the enemy of France and the world has retreated.

Photo by Central News Service



ROW OF NEWLY-CONSTRUCTED MINERS' DWELLINGS AT LENS

Not a pretty scene, for no time or opportunity has yet been given for the planting of trim gardens round these comfortable houses. French operating companies build good towns for their workmen. France has not received due credit for the care it has always taken of the problem of housing. Before the war its mine villages compared with the best in the United States.

hoped that pumping could be started in a month's time. The coal at Lens is overlaid with several strata, one of which, of limestone, 326 ft. thick, is fissured and waterbearing. The top of this stratum is about 98 ft. below the ground surface and throughout the entire depth of the limestone the shafts were lined with cast-iron tubing. There are thirty shafts in all, fourteen for the extraction of coal and sixteen for ventilation, all measuring 15 ft. 9 in. in diameter. At ten of these the Germans had dynamited the lining, thus permitting the water to flow in and fill the mines.

To reclaim the damaged shafts a ring of holes, fifteen in number, placed in the circumference of a circle about 50 ft. in diameter is bored concentrically with the shaft. The holes extend to the impervious stratum underlying the limestone, and cement grout is pumped into them under a pressure of 5 to 10 kg. per square centimeter (71 to 143 lb. per square inch). As a rule neat cement is used, though when the flow is free, cement sand grout is used until the sealing has commenced. Experience thus far indicates that about 4,500 bbl. of cement will be required to seal each of the ten shafts.

It was expected that the extraction of coal would begin in about six months (from June 22) but full capacity probably will not be reached in less than

two years. In other words, capacity operation is not expected until at least 3½ years after the signing of the armistice. About 1,500 men are engaged on the reclamation work, contrasted with the 15,000 employed when the mines were in full operation.

Canada Second in Use of "White Coal"

IN VIEW of the world's diminishing coal resources, "white coal," or developed water power, is more than ever commanding attention in various countries. Canada is now said to possess the greatest per capita water power development of any country in the world excepting Norway. According to "The Dominion of Canada," a study by the Bankers Trust Co., of New York, Canada, with 19,500,000 "white-coal" horsepower available, has a per capita development of 0.26 horsepower compared with 0.54 horsepower for Norway and 0.07 horsepower for the United States. The latter country with 30,000,000 "white-coal" horsepower available leads the world in potential and developed water power resources and Canada comes next.

In general, Canadian water powers are applied to three uses: (a) municipal purposes, (b) for manufacture of pulp and paper and (c) for electro-chemical and similar processes. Of the developed water power about 78 per cent is used for municipal purposes, about 14 per cent for the pulp and paper business and about 8 per cent for electro-chemical or similar processes.



A STREET IN THE MINING SECTION OF LENS AS THE GERMANS LEFT IT

The French are rapidly reconstructing these ruined villages. These ruins bear witness to the fact that prior to the war the French mine workers lived in substantial dwellings.—Photos by Central News Service.

Direct Negotiation and Open Shop Cited as Safeguards of Mine Worker's Freedom*

Co-operation of Transportation Lines Necessary to Effective Distribution of Coal—As Anthracite Production Even Under Favorable Conditions Is Readily Absorbed, Interruption of Operation Will Inconvenience the Public

BY EDWARD W. PARKER†

FOR a little more than seventeen years, or since October, 1902, when the anthracite mine workers terminated their great strike of that year and returned to their working places in accordance with their agreement with President Roosevelt, and the appointment by him of the Anthracite Coal Strike Commission, industrial peace has prevailed in the anthracite region. As a result the miners and the communities have prospered to an extent probably not equalled, certainly not excelled, in any industrial locality in the United States, if indeed in the world. It was too much to hope or expect that there would not be some local disaffection, and this there has been, but it has been sporadic and not contagious or epidemic, and has been settled through the agency established by the strike commission, namely, the Anthracite Board of Conciliation, which consists of six members—three from the operators and three from the miners. The more recent Anthracite Commission says in its majority report that the creation of the Board of Conciliation "is, perhaps, the most valuable and most abiding work of that commission."

The Anthracite Board of Conciliation has not only maintained peace in the anthracite region by the amicable adjustment of such grievances as have come before it (and these have numbered some eight hundred during its seventeen and a half years of existence) but since 1912 its members have constituted three-fourths of the committee that has negotiated the wage agreements of which there have been no less than nine, including the one of Sept. 3, 1920, since the Anthracite Coal Strike Commission made its report to President Roosevelt in March, 1903. It is true that when the latest agreement terminated, on March 31, 1920, negotiations for the formation of a new agreement signally failed, and this failure is responsible for whatever of an unfortunate character the year 1920 developed in the anthracite industry.

The failure to negotiate a new agreement, which resulted eventually in the appointment by the President of a commission to settle the matters in dispute, was due primarily to the interjection into the controversy of a new element known as the "consulting economist," impersonated by one W. Jett Lauck, and, secondarily, to the demand of the miners for a "closed shop" in the anthracite region. The latter can be more conveniently disposed of first.

Demand No. 5 of the fifteen demands originally presented by the miners for the consideration of the negotiating committee was: "We demand a closed-shop contract, which means full recognition of the United Mine Workers of America as a party to the agreement."

It proved to be the principal stumbling block in the deliberations of the committee. Except for this the two sides were not far apart when, after nearly two months

of negotiation in New York, and a final disagreement, with a resulting suspension of work, was imminent, the committee accepted the invitation of the Secretary of Labor to go to Washington. There nearly a month was taken up in conferences with the Secretary, who with extraordinary patience and diplomacy endeavored to effect a settlement. After numerous separate and joint conferences with the two sides of the committee, the Secretary submitted a tentative plan of agreement, most of which was in a spirit of compromise accepted by the representatives of the operators. The representatives of the miners, however, unwisely advised, had somewhat amended their original demands, and had presented to the Secretary what they designated as an

"ultimatum," included in which was a demand that Article IX of the Anthracite Coal Strike Commission award be eliminated. This, particular article next to the one providing for the creation of the Board of Conciliation is probably the strongest pronouncement of that commission. It says:

"IX. The commission adjudges and awards: That no person shall be refused employment, or in any way discriminated against, on account of membership or non-membership in any labor organization; and that there shall be no discrimination against, or interference with, any employee who is not a member of any labor organization by members of such organization."

REASONS GIVEN FOR UPHOLDING OPEN SHOP

That commission then spoke unequivocally for the open shop. In giving utterance thereto it did not fail to state its reasons in language no less forcible, and I may be pardoned if I here quote a portion of that language:

"The right to remain at work where others have ceased to work, or to engage anew in work which others have abandoned, is part of the personal liberty of a citizen that can never be surrendered, and every infringement thereof merits and should receive the stern denouncement of the law. All government implies restraint, and it is not less, but more, necessary in self-governed communities than in others to compel restraint of the passions of men which make for disorder and lawlessness. Our language is the language of a free people, and fails to furnish any form of speech by which the right of a citizen to work when he pleases, for whom he pleases, and on what terms he pleases, can be successfully denied. The common sense of our people, as well as the common law, forbids that this right should be assailed with impunity. It is vain to say that the man who remains at work while others cease to work, or takes the place of one who has abandoned his work, helps to defeat the aspirations of men who seek to obtain better recompense for their labor and better conditions of life. Approval of the object of a strike, or persuasion that its purpose is high and noble, cannot sanction an attempt to destroy the right of others to a different opinion in this respect, or to inter-

Among the developments of the year 1920 in the anthracite industry this authority assigns an important place to the endorsement of the principle of the open shop strongly emphasized in the negotiations on the anthracite wage scale, despite—or perhaps partly because of—the activities of a new agency in labor matters, the consulting economist.

*An address delivered under the title "What 1920 Developed in the Anthracite Industry," at the American Mining Congress, Denver, Col., November, 1920.

†Director, Anthracite Bureau of Information, Philadelphia, Pa.

fere with their conduct in choosing to work upon what terms and at what time and for whom it may please them so to do.

"The right thus to work cannot be made to depend upon the approval or disapproval of the personal character and conduct of those who claim to exercise this right. If this were otherwise, then those who remain at work might, if they were in the majority, have both the right and power to prevent others who choose to cease to work from so doing.

"This all seems too plain for argument. Common sense and common law alike denounce the conduct of those who interfere with this fundamental right of the citizen. The assertion of the right seems trite and commonplace, but that land is blessed where the maxims of liberty are commonplaces."

OPERATORS WILLING TO COMPROMISE; WORKERS REFUSE

But to return to the Secretary. So far as the matter of wages was concerned the operators had agreed to practically all of the compromise suggestions the Secretary had made, but positively declined to agree to any change of principle enunciated by the Anthracite Coal Strike Commission, and the Secretary had finally to notify the President that he had gone the limit his conscience would permit.

The miners in convention at Wilkes-Barre repudiated the Secretary's suggestions and requested the appointment of a commission, as the President had announced he would do if the controversy were not settled otherwise. That commission also has spoken for the open shop. It ordered, to be sure, that an agreement based upon its findings should be made with the United Mine Workers of America, but it added that, "this official recognition of the United Mine Workers of America for the purpose of adjusting differences and strengthening collective bargaining does not carry with it the theory or the fact of the 'closed shop' or the 'check off.'" And it strengthened the award of the Anthracite Coal Strike Commission by providing the machinery through which the non-union man should be protected in his rights of having his grievances presented before the Board of Conciliation, for it provided further "that it does not in any degree interfere with or annul the provisions of the award of 1902 in which the rights and privileges of non-union men were stated and protected; and provided further that in cases where non-union employees have grievances or where for any reason the grievance committee or mine committee fails to give such grievance consideration satisfactory to the employee, his right to appeal from the decision of the foreman or grievance committee and to the Board of Conciliation shall be inviolate."

This endorsement of the principle of the open shop is one of the things that 1920 developed in the anthracite industry.

And now to go back a little and consider the primary cause of the failure to reach an agreement by the wage committee—the consulting economist. First at the meetings in New York and later in the hearings before the President's commission the miners' case was presented in the shape of elaborately prepared statistical exhibits in which the increased cost of living as compared with increased earnings, the theory of "the living wage," the budgetary plan of determining wage scales, the occupational hazards of anthracite mining, etc., were set forth in extraordinary detail and manifold combinations.

CONSULTING ECONOMIST DID NOT COME CHEAP

The miners had engaged a consulting economist, W. Jett Lauck, aforesaid, for whose services the treasury of their organization was mulcted, according to a statement in *Coal Age*, to the extent of approximately \$40,000. Lauck, it seems, had burst from obscurity into a certain degree of prominence by having himself appointed as secretary of the War Labor Board, from which he graduated into his present line of activity. And he has been decidedly active. He has organized a highly efficient publicity department which obtains for him a large amount of free advertising in the daily papers, and he is a liberal contributor to the magazines and the publications of economic societies. He poses as the advocate of labor and has figured in a number of labor controversies, notably among recent

ones the street railway strike in Boston, before the Railroad Labor Board in Chicago, and in the hearings before the two coal commissions.

Whatever may have been his success in the other controversies, his efforts on behalf of the anthracite mine workers were less than useless. It was developed at the hearings before the commission, indeed by Lauck's own confession, that the exhibits he presented were neither statistically nor mathematically correct; in fact, every statement was discredited and the money spent upon the preparation of all this "testimony" and the services of the consulting economist before the commission was little more than money thrown away. Undoubtedly the representatives of the miners were deceived by the plausibly concocted exhibits. They were deluded into the belief that they were entitled to more concessions than the operators felt were justified, and into the hope that by refusing the offers made by the operators and the compromises suggested later by the Secretary of Labor, they would obtain further concessions at the hands of a commission.

TIME LOST AND ILL FEELING ENGENDERED

As it was, the negotiations were prolonged over a period of nearly six months, bad feeling was engendered, as has been shown in the dissatisfaction with the award of the commission through the "vacations" taken by the miners, and it is not certain, unfortunately, that further trouble will not yet arise. But for the interjection of the consulting economist into the controversy an agreement probably would have been reached within sixty days from March 9, when the negotiations were begun; the men would not have had to wait six months for their increased pay, bad feeling would not have been engendered, and the friendly spirit that has prevailed in the anthracite region, largely through the beneficial influence of the Board of Conciliation, would have been maintained. Moreover, the treasury of the union would be better off by some \$40,000.

This does not appear too much to assert. The good feeling that existed at the beginning of the negotiations was shown in the first general meeting of operators and miners on March 9. And one of the first acts of the committee appointed at that meeting was to pass a resolution making any agreement as to wages retroactive to April 1, the representatives of the miners giving the assurance that there should be no suspension of mining pending the negotiations. This showed not only a spirit of amity in the committee but an earnest desire to subserve the interests of the public dependent upon the anthracite mines for its health and comfort.

POINTS THAT CAUSED A DEADLOCK

At the end of several weeks of negotiations in New York the points of difference upon which the two sides could not come to an agreement were a difference of 5 per cent in the advance of wages demanded and offered and the closed shop. The operators agreed to sign up on a 15-per cent advance and the principle of the open shop maintained. The representatives of the miners insisted on an advance of 20 per cent in wages with the closed shop and check off. It appearing then that the differences were irreconcilable, the Government, in the person of the Secretary of Labor, stepped in. When the disputants, if such they may be called, appeared before the Secretary, he said in effect "Will you split the difference and agree upon a 17-per cent advance?" The operators assented, but the miners were not in a spirit of compromise and refused the proffered olive branch.

The "ultimatum" of the miners, presented to the Secretary on May 18, demanded an increase of 65 per cent for contract miners over the 1916 rate and an increase of 20 per cent for all daymen over the rates in effect. The increase demanded over the 1916 base for contract miners was equivalent to a little less than 18 per cent over the rates they were then getting, so it can be seen that there was a difference of less than 1 per cent in contention so far as the

¹The wage negotiating committee consisted of the six members of the Board of Conciliation, together with the president of the United Mine Workers of America, and another operator to maintain the balance. The chairman had no vote.

contract miners were concerned and of 3 per cent so far as the daymen were concerned, based on the Secretary's suggested compromise, which the operators had agreed to accept.

It was quite evident at that time that the miners' representatives were under the sinister influence of their consulting economist, and were not in a humor for compromise of any sort, so the whole case went to the commission appointed by the President. Here it was opened up *de novo*, for it was stated in the articles of submission and in the President's proclamation that "it is understood that neither operators nor miners are in any manner bound by any tentative suggestions that have been made during the period of their negotiations and that either side shall use its own discretion in the presentation of its case in connection with the matters at issue."

MINE WORKERS' DEMANDS UNDERGO REVISION

When the contending parties appeared before the commission the demands of the miners had been modified somewhat, the original demand for a 60-per cent increase over the existing rate being changed to read "the present wages of the anthracite mine workers be increased to correspond to the increases granted the bituminous mine workers by the Presidential Coal Commission," and the demand for a 6-hour day and a 5-day week was changed to one for an 8-hour day for all classes of day labor, with overtime for Sundays and holidays. The demand for a closed shop was unchanged. Most of the demands, which were increased to eighteen, were of minor character, such as replacement without expense to the miner of tools lost through no fault of his own, and were granted without much demur. Others were of local importance only and provision was made for their adjudication through the Board of Conciliation. What happened to the demand for the closed shop has already been noted. The only other two of major importance were the ones for increased wages and the 8-hour day.

It developed at the hearings before the commission that the demand for an increase to correspond to the increases granted the bituminous mine workers by the Presidential Coal Commission was susceptible of several interpretations, the rate of increase being stated to mean anywhere from 27 to 31 per cent, with a \$6 minimum for common labor, both with and without existing differentials, and that the different conditions prevailing in the anthracite and bituminous fields were played one against the other to secure advantages in the matter of wages. For instance, in the hearings before the Bituminous Coal Commission particular stress was laid upon the larger *earnings* of the anthracite mine workers, because, notwithstanding the higher *unit rates* in the bituminous fields, the miners could not earn living wages on account of the fewer number of days they were able to obtain employment. This condition was strongly brought out in the minority report of John P. White, former president of the miners' union, and it was largely because of these conditions that the increase in *rates* to the bituminous workers was given.

INCREASE OF RATES, NOT EARNINGS, ASKED

It was clearly shown by the operators that the anthracite mine workers were then earning more wages than were the bituminous workers after the advances granted by the President's commission had gone into effect. In presenting their case before the Anthracite Coal Commission the exhibits prepared by the consulting economist made comparison with the *rates* in the bituminous fields, the earnings being either ignored or stated in the form of estimates which so grossly misrepresented the facts that there was little doubt of premeditated and determined intent to deceive the commission.

It is not my desire or intention to charge the representatives of the miners on the negotiations committee with being party to this attempt at deception. They were, as I have already stated, themselves deceived by speciously manipulated statistics into the belief that the anthracite mine workers were not as well paid as their bituminous brothers, though had they taken cognizance of the prosperous conditions in the anthracite region as compared with

those in the bituminous fields, they might have thought differently.

The award of the commission on the wage demand was in close agreement to the compromise suggestion of the Secretary of Labor, with, however, a special consideration to the lower paid class of labor, which was given a minimum of \$4.20 per day, or per shift, as against a minimum rate of \$4 suggested by the Secretary. In their original offer of an advance of 60 per cent to the contract miner over the 1916 base rate and of 15 per cent to the daymen over the then going rates the operators felt that they had, in justice to the public, which must in all such cases pay the bill, gone as far as they could.

The Secretary of Labor, in a letter to the President outlining the situation after his attempt at mediation had failed, stated that the basis of compromise he had proposed was as far as he could go and justify his position.

PUBLICITY METHODS OF CONSULTING ECONOMIST

The consulting economist evidently had foreknowledge of the commission's conclusions (by which is meant, of course, the majority report), for hardly had the report with the President's acceptance of it been released at the White House before a mimeographed discussion of it by W. Jett Lauck was in the hands of the newspaper representatives in Washington and in the mails. In this review the consulting economist informed the public that the increase in wages granted was not sufficient to warrant any advance in the price of coal. He ignored the fact that the Federal Trade Commission had shown that the labor cost of producing anthracite was \$3.41 a ton, and that if this were applied only on the domestic sizes the labor cost was \$4.89 a ton.

It is estimated that with the larger advance to the low-paid labor the total added labor cost by the commission's award is 18 per cent, or about 88c. a ton on the prepared, or domestic, sizes. The Trade Commission's report showed that the average margin on fresh-mined coal was 36c. a ton, equal to about 4½ per cent on the capital invested, namely, \$7.50 to \$8 per ton of output.² And this did not represent profit, for out of it had to be paid Federal taxes, sales expenses and interest on borrowed capital, and from it reserves for non-insurable risks had to be set up.

Evidently Mr. Lauck is of the opinion that the anthracite operators should do business at a loss from 60 to 75c. a ton for the pleasure of supplying him with his winter's supply of fuel.

It may not be that the "vacation" strike of the anthracite mine workers following the President's acceptance of the majority report was actually instigated by the consulting economist, but he was at least cognizant of the plans of those who fomented and directed it, for in the same statement he announced that "as a result of this award there probably will be trouble in the anthracite field," though he attempted to duck any responsibility for such an eventuality by saying that the weather forecaster who predicted rain did not produce the rain. Not content with mulcting the miners' treasury to the extent of \$40,000 he was in the light of succeeding events apparently responsible, if only in part, for the sacrifice of several million dollars in wages, a goodly part of the back pay accumulated since April 1, and for the non-production of some 2,000,000 tons of badly-needed coal.

EIGHT-HOUR DEMAND ENDANGERED OUTPUT

The demand for an 8-hour day, with punitive overtime, was denied by the commission. It was shown that if the breakers were to operate on an 8-hour basis it was necessary for some men to put in regularly from 9 to 10 hours, and, conversely, if all employees were limited to eight hours, the breaker time would be shortened and production reduced accordingly.

It is gratifying to be able to state that the anthracite mine workers faithfully carried out their agreement to remain at work during the six months that the negotiations were passing through their several phases, although, as

²"Anthracite Mining Costs," by R. V. Norris, Engineers' Committee, U. S. Fuel Administration. *Transactions A. I. M. & M. E.* New York meeting, February, 1919.

stated above, dissatisfaction with the terms of the commission's award was manifested by unauthorized strikes, under the guise of "vacations" which seriously affected production, particularly in the Schuylkill and Lehigh regions, during the month of September, and resulted in a substantial decrease in tonnage.

Unfortunately, this was not the only factor that acted against increased production of anthracite during the present year. Several other untoward incidents occurred, among which may be mentioned (1) the outlaw switchmen's strike in the spring and early summer, which interfered with car supply and the movement of customary tonnage at that season to the head of the Lakes; (2) embargoes by the New England railroads, particularly the New York, New Haven & Hartford, which limited all-rail distribution into that territory during a goodly portion of the summer; (3) strikes of towboat men in New York harbor, which lasted more than two months and reduced the water movement to ports on Long Island Sound; (4) a strike of about two months' duration by about 10,000 employees of the Pennsylvania Coal Co. and (5) an appreciable shortage of productive labor (miners and miners' laborers) throughout the entire region. As a result of these combined circumstances the shipments for the first six months of the present coal year amounted to 33,200,000 gross tons, compared with 35,100,000 gross tons last year. This does not tell the whole

story, however, for production this year, on account of the increased demand for anthracite, made more insistent by the shortage in bituminous coal, includes a considerably larger proportion of washery coal—how much it is not possible to say at the present time; probably as much as 2,000,000 tons.

What the year 1920, therefore, may be said to have developed in the anthracite coal industry may be summarized as follows:

(1) In wage controversies, satisfactory conclusions may best be arrived at through direct negotiations between the parties at interest, as determined the agreements in the anthracite industry from 1902 to the present year, without the interference of consulting economists or other outside influences.

(2) Co-operation of railroad and other transportation agencies is necessary to insure the orderly distribution of the product.

(3) The production of anthracite under most favorable conditions is not more than sufficient to meet the domestic fuel requirements of the territory it serves. Consequently steady employment is offered to its employees, and any interruptions to continuous operation will result in possible inconvenience to the public or the substitution of other fuels if they are available.

(4) The policy of the open shop is a safeguard to the individual freedom of the American workman.

Tests with Jig Having No Suction Effect Suited to Small Sizes of Coal

Many Attempts Have Been Made to Adapt Existing Coal-Washing Machinery to the Preparation of Small-Sized Anthracite—A Jig That Has No Suction Effect Solves the Problem

BY J. H. McNALLY*
New York City

SUITABLE preparation of the steam sizes of anthracite is one of the most troublesome problems encountered in breaker operation. The industry has been fully alive to the fact that these sizes must be prepared in order to profitably move them, yet despite much study and experimentation the measure of success attained has been small. Today many attempts are being made to adapt concentrating tables and redesign existing jigs to successfully prepare these small sizes.

It is not my desire to create discussion regarding the relative merits of tables and jigs for this work; each has a place where it can be used to advantage. It is the purpose of this article, however, to describe a jig that has been in practical and successful operation for the last ten months and to give some results of its performance and operation, and let the reader judge for himself as to the applicability of this device to his own particular preparation problems.

SUCTION MAKES IT HARD TO WASH SMALL SIZES

The principal cause of failure in the attempt to prepare steam sizes on jigs suited to the preparation of domestic sizes is the suction induced by the return stroke of the jig plunger. This produces a rich refuse product. Such a suction exists to a greater or lesser degree when these jigs are used on the larger sizes, but its effect is much emphasized when attempt is made to use them on buckwheat or rice coal, while on barley their use apparently is hopeless. Realizing that this

suction is the shortcoming of most jigs, many designers have attempted to overcome it by placing valves in the plunger, but, to my knowledge, these mechanisms never go beyond the experimental stage. It remained for the ore-concentrating art to show the way.

The James automatic jig, made by the James Ore Concentrator Co., of 35 Runyon St., Newark, N. J., embodies this feature. It is of the single-compartment, balanced type, using the cup-and-gate method of refuse discharge. The screen measures 4 x 4½ ft. and is provided with ¼-in. circular perforations. It carries a bed of ⅜-in. iron ore.

Referring to Fig. 1, which is a cross-sectional view, the device is seen to consist of a stationary jig chamber, supported in a large wooden tank, on top of which is placed the operating mechanism. From the bell cranks (1 and 2) the pulsator (A) is suspended by rods working clear of the sides of the jig chamber. This pulsator has the shape of two inverted pyramids, on each face of which are placed three valves, making twenty-four in all, having an aggregate area equal to that of the screen. These valves are so designed that they open on the downward and close on the upward stroke of the pulsator, thus causing the flow of pulsation or water through the jig to take place in one direction. This reduces suction to a minimum.

Coal is fed to the jig by a chute leading in on the right, and after separation it overflows through an opening on each side of the chamber, as is shown by dotted lines. It is discharged by draglines not shown in the figure. The slate discharges on the left side of the jig

*Fuel engineer, Weston Dodson & Co., Inc.

chamber and feeds the dragline illustrated. The action of the cup-and-gate mechanism is described further on in this article.

CUP AND GATE AN OLD CONCENTRATOR DEVICE

In connection with the method of discharging the refuse, the cup-and-gate action is almost as old as the concentrating art, and yet it is practically unused in the design of coal-washing machinery. It is interesting to see the lengths to which certain jig manufacturers go in order to attain the automatic discharge of refuse, when by this simple means they can obtain results that are entirely automatic and which require none of the complicated mechanisms they insist on using.

A brief non-technical explanation of the cup and gate will suffice to show the action of this device. Referring to the accompanying illustration, Fig. 2, representing the chamber of a jig, it will be seen that this chamber is divided by the baffle "A" into two parts, A and B. This baffle, or division plate, clears the top of the screen by a distance equal to the thickness of the bed desired. Water pulsates through the bottom screen in both compartments A and B. Materials of different specific gravities—for instance, coal and slate—are fed into the

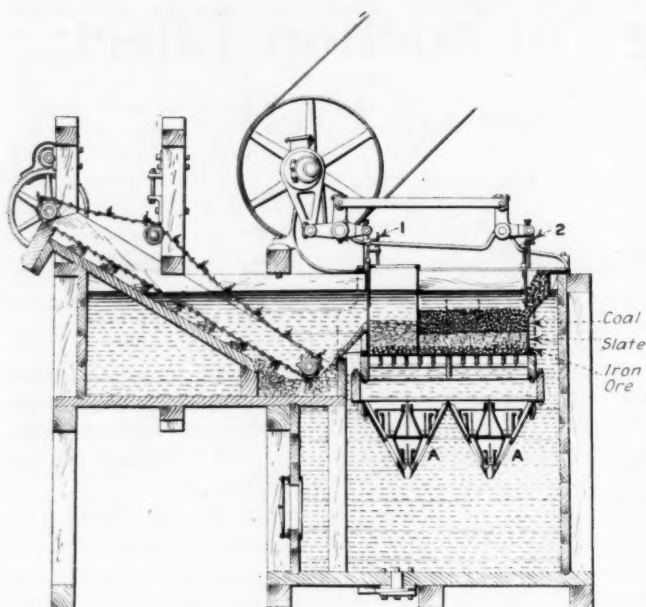


FIG. 1. CROSS-SECTION OF THE JIG

Vertical oscillation of the double conical valve chamber produces upward impulses of water through the stationary jig bed. Good coal attaining a certain level overflows through two stationary side openings, while the refuse leaves the machine by way of cup-and-gate arrangement.

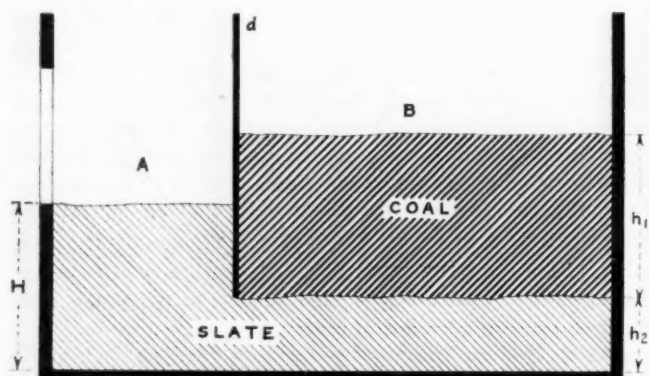


FIG. 2. DIAGRAMMATIC SKETCH OF THE CUP-AND-GATE

When the weight of heads $h + h_2$ equals that of H , refuse overflow takes place. Operation of this device is simple and effective.

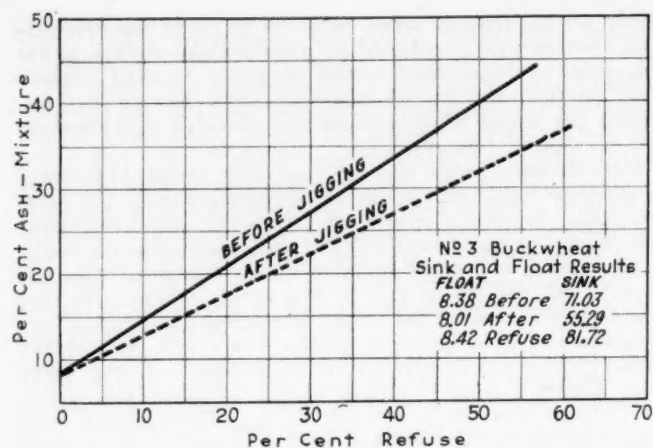


FIG. 3. RELATION BETWEEN ASH AND REFUSE IN JIGGED AND UNJIGGED COAL

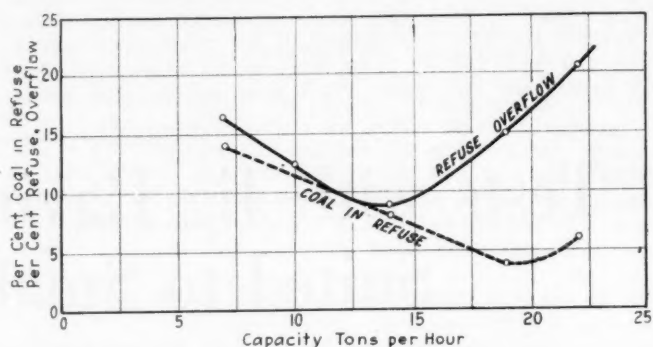


FIG. 4. CAPACITY-EFFICIENCY CURVES OF THE JIG

Stroke, speed and refuse content were held constant and the rate of feed varied. A good coal and a good refuse cannot be obtained simultaneously.

right end of the chamber B, and a separation takes place, the lighter material (coal) seeking the top, and the heavier (slate), the bottom.

Now consider compartment B, having a certain height or head of slate, h_2 , and coal, h_1 . The water level being the same in both compartments (A and B), the sum of the weights of these heads must be equal to the weight head of the slate in compartment A at any given instant. Now if a means of discharging the coal in compartment B and the slate in compartment A is provided, each upward pulsation of water will cause coal to overflow in B and slate in A, when and so long as $W_2 H = w_1 h_1 + w_2 h_2$, where w_1 and w_2 are the specific gravities of coal and slate respectively.

The height of the two discharge gates, of course, takes into consideration the average specific gravity of the materials to be separated. A numerical example will show this action. Assume the specific gravity of the slate to be 3 and of the coal 1.5, and that the bottom of the baffle "a" is set 3 in. above the screen, while the coal discharge gate is set 15 in. from the screen.

The head due to the slate is 3 in. \times 3 = 9 units.

The head due to the coal is (15 - 3) 1.5 = 18 units.

Total head = 18 + 9 = 27 units.

This figure divided by the specific gravity of slate (3) gives the height of the slate discharge H above the screen, or $27 \div 3 = 9$ in.

In practice the height of the coal overflow is fixed, while that of the slate can be varied to suit the material treated. Setting the slate overflow, or gate, too low will cause a rich refuse, while placing it too high will cause slate to come over with the coal.

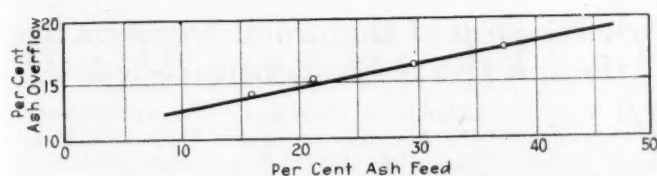


FIG. 5. ASH FEED-OVERFLOW CURVE

Stroke, speed and rate of feeding were held constant while ash content of the feed was varied. The efficiency of cleaning underwent little change from 14 to 37 per cent refuse in the feed.

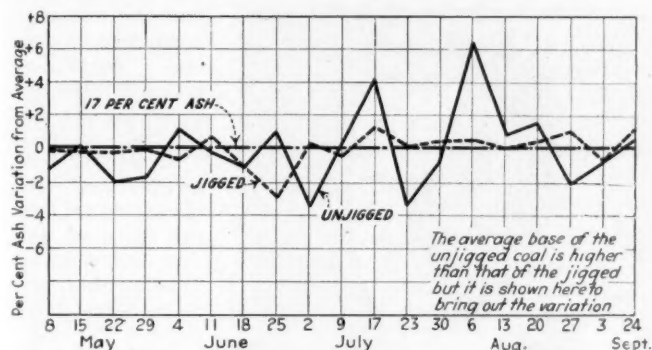


FIG. 6. CONSISTENCY OF JIG OPERATION

The percentage of the ash content in the washed coal varied little from month to month. Maximum variation from May to October was about 4 per cent.

Referring to Fig. 1, the partition "a," called the division plate, is shown at the left of the jig chamber. The crank handle to the left controls the height of the slate overflow, while the rate of feed to the jig is regulated by the handle to the right, operating a gate on the feed chute. The coal overflow is on both sides of the chamber and cannot be seen in the illustration, but is represented by dotted lines.

ADVANTAGES OF USING THIS SUCTIONLESS JIG

The following salient advantages result from this type of construction: (1) Low water consumption; (2) automatic operation, for no "tapping" is necessary; (3) operation and efficiency independent of the refuse content of the coal, up to the maximum rate at which the jig will discharge refuse; (4) practical elimination of suction; (5) equally efficient operation with anthracite from $\frac{1}{2}$ in. to plus $\frac{3}{4}$ in.; (6) consistent results in anthracite operation—the ash content of the coal overflow has not varied more than 1 to 2 per cent during ten months of operation.

I recently completed a series of tests on this jig that in every case verifies the above conclusions. The coal tested was standard No. 3 buckwheat, made through a $\frac{3}{4}$ -in. and over a $\frac{1}{2}$ -in. round-mesh screen, containing approximately 12 per cent undersize. The percentage of coal and refuse was determined by a sink-and-float test, using a zinc-chloride solution with a specific gravity of 1.7. The sink-and-float products were analyzed for ash.

In this connection a point of interest is brought out. The ash content of the various materials as analyzed shows the ash of the pure coal (float product) runs practically constant in all cases, while that of the refuse (sink product) varies as much as 40 per cent, based on the after-jigging figures. The average results of these tests show an ash content as follows:

	Ash Content of Float, Per Cent	Ash Content of Sink, Per Cent
Before jigging	8.38	71.03
After jigging.....	8.01	65.29
Refuse	8.42	81.72

The explanation of the low ash content of the sink product of the coal discharge, or the overflow from the

jig, lies in the fact that the jigging operation removes practically all of the heavy ash-making material, but does not remove the bad and medium bone, which, of course, will sink in a 1.7 specific gravity solution. This phenomenon is one of the principal reasons why the sink-and-float test has been unjustly condemned by those who try to use it without possessing definite knowledge of the quality of the various materials that make up the refuse or sink product.

The curves in Fig. 3 exhibit the relation existing between the ash and refuse in jigged and unjigged coal.

TESTS WITH DIFFERENT FACTORS CONSTANT

In conducting tests on this machine it is advantageous to hold certain factors constant and vary the others, thus obtaining their relation. The variables affecting jig performance are: (a) Length of stroke, (b) number of strokes per minute, (c) rate of feeding, (d) refuse (or slate) content of feed, (e) refuse (or slate) content of overflow, (f) coal content of slate discharge. The first four are independent variables and can be kept constant under test conditions, while the fifth and sixth (e and f) are dependent on them.

In one series of tests the stroke, speed and refuse content were held constant at 2 in., ninety strokes per minute and 25 per cent respectively. The jig was operated at various capacities ranging from 7 to 22 tons per hour, and the curves shown in Fig. 4 were derived.

It will be noted from these curves that the refuse or slate in the overflow (coal discharge) is at a minimum when the jig is operating at fourteen tons per hour capacity, while the coal in the slate discharge reaches a minimum at nineteen tons per hour. Here is an experimental demonstration of the well-known rule of thumb in jig practice that either a good coal or a good refuse may be obtained, but both cannot be obtained at the same time.

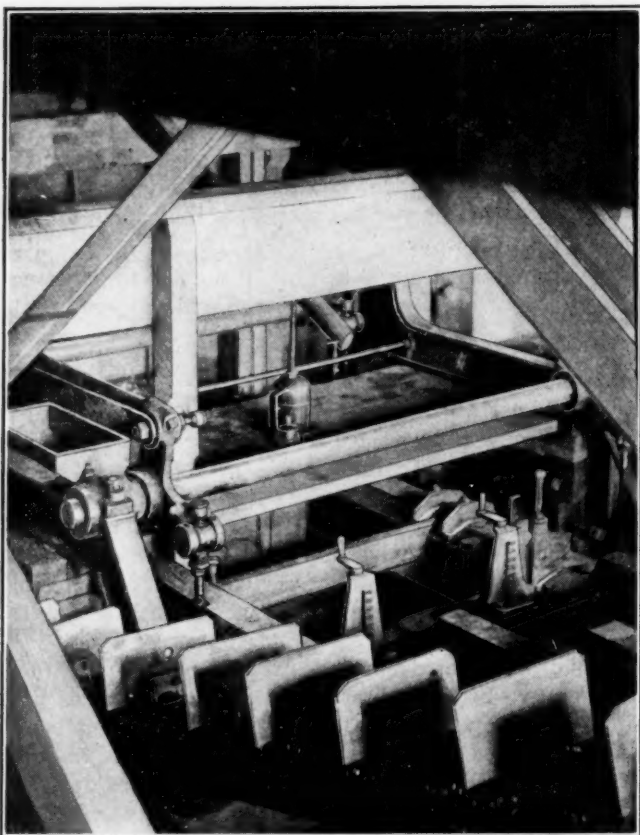
STROKE, STROKE SPEED AND FEED RATE FIXED

In the second series of tests the stroke speed and rate of feed were maintained constant at 2 in., ninety strokes per minute and fourteen tons per hour, but the refuse content of the feed was varied from 15.7 to 37 per cent. As a result the curve shown in Fig. 5 was derived. The flatness of this curve should be noted, as it shows that the results obtained from the efficiency of the jig are nearly independent of the refuse content of the feed up to 37 per cent.

The shape of the curves shown in Fig. 4 may be explained as follows: Assuming that the jig is operating at ninety 2-in. strokes per minute, it is circulating water through the screen at a rate of approximately 2,000 gal. per minute. This volume of water is greatly in excess of that necessary to cause proper separation when the jig is fed at the rate of seven tons per hour capacity, and it causes slate to overflow with the coal.

The excess circulation becomes zero at fourteen tons per hour capacity, above which it is not sufficient, and the feed passes through the jig with a decreased settling action, thereby causing more slate to be discharged with the coal. This can be readily understood by considering that a point may be reached where the amount of material handled is increased to such an extent that the jig chamber becomes so crowded that the feed material passes through the device with no separation whatever.

Similarly, the rich slate discharge is caused by the jig bed having too much fluidity at a feed of seven tons



JIG IN OPERATION

The bell cranks operating the pulsator and one of the conveyors removing the coal are shown.

per hour. Under such conditions coal is trapped with the slate on the settling stroke of the pulsator, and consequently is discharged with it. This action gradually becomes less as the excess fluidity decreases, and at a feed of nineteen tons per hour the jig contents reaches the proper consistency and the coal in the slate discharge attains its minimum, after which it increases, because of an insufficient volume of water.

Of course, it will be understood that a new set of conditions is established when either the length of the stroke or speed is changed, thus causing an increase or decrease in the amount of water circulated. As a result, a new performance curve may be derived for each separate length of stroke, and it is my intention to make this the subject of a subsequent article.

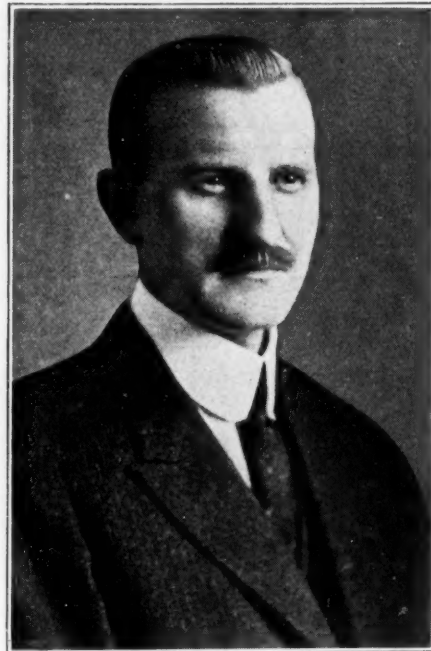
In order to show the consistency of preparation obtainable with these jigs, the chart, Fig. 6, gives the per cent of ash variation from the averages of the weekly samples of this coal from May to October, 1920, in comparison with the same variation of an unwashed No. 3 buckwheat from another colliery. This shows the improvement in quality and also the consistency of the ash content of the coal.

COAL MINES IN the State of Coahuila, which for several weeks have been under Government protection as a measure of safety during the strike of coal miners there, were returned to their owners Nov. 18 by a decree issued by Governor Luis Gutierrez of Coahuila. Workmen who desire to return to their tasks were by the decree assured of ample protection, and the owners received guarantees against disorders.

The decree gave the basis of the wage scale which returning workmen and owners must accept and stipulation was made that if within three days the mines were not in operation and producing enough coal to revive paralyzed dependent industries the Government would again take over control of the mines.

New President of Mechanical Engineers Has Been Active in Engineering Societies

EDWIN S. CARMAN, of Cleveland, Ohio, newly-elected president of the American Society of Mechanical Engineers, will take office after the society's annual convention, which will be held in New York City in December. He succeeds Major Fred J. Miller, of New York. Mr. Carman was born in Prairie Depot, Ohio, in 1878. His high school



EDWIN S. CARMAN,
President elect of the American Society of
Mechanical Engineers

and business training was supplemented by special instruction and studies in engineering at the Central Manual Training School at Cleveland. He began work in the shop of the Sun Oil Co., of Toledo, Ohio, and four years later entered the engineering field with the American Machine & Mfg. Co. He was appointed chief engineer after two years in the engineering department. In 1908 this company was consolidated with the Johnston & Jennings Co., and Mr. Carman was appointed chief engineer and

manager of the engineering and machine department.

In 1908 Mr. Carman was engaged by the Osborn Manufacturing Co., of Cleveland, Ohio, to design, manufacture and build up a complete line of foundry molding machines, the design being based upon sound engineering principles with the details of manufacture in regard to workmanship equal to that of the machine-tool industry.

In 1913 Mr. Carman became directly associated with the Osborn Manufacturing Company as chief engineer in charge of engineering and manufacture of the machine division, and in 1916 he was elected a director and secretary. In 1917 he was appointed works manager of both the machine and brush divisions of the company.

He is the author of a treatise on foundry molding machines and pattern equipment and a contributor of papers on the art of machine molding.

For a number of years Mr. Carman has been prominent in the activities of engineering societies. He was elected president of the Cleveland Engineering Society, and completed his service in this office in June, 1920. He was first chairman of the Cleveland section of The American Society of Mechanical Engineers, which was authorized in December, 1918. Mr. Carman was a member of the A. S. M. E. Committee on Aims and Organization and chairman of Subcommittee C, which dealt with relations of the mechanical engineer to other engineers. He was one of the society's representatives on the joint conference committee.

Leon P. Alford, formerly editor of *American Machinist*, will be Mr. Carman's associate as vice president of the American Society of Mechanical Engineers.

THE EXECUTIVE COMMITTEE of the United Mine Workers' Union, Nova Scotia and New Brunswick districts, on Nov. 19 voted, 76 to 20, for rejection of a tentative wage agreement submitted by miners' officials, mine operators and representatives of the Dominion Department of Labor. The rank and file of the union will now vote on the proposition. If they reject it a strike is probable. About 12,000 miners are affected.

Wallboard Much Used in Anthracite Company Houses, Especially for Repairs

On New Dwellings of Unseasoned Lumber Wallboard Is Apt to Warp, but Where Plaster Falls Off It Is Better for Use Than New Plaster— It Resists Violence and Water, Is Warm, Neat and Soundproof

MINING companies are prone to be somewhat backward in using modern materials in the construction of houses for their employees. This reluctance to follow new practices probably rises from two causes: Custom and lack of acquaintance with the building art. There was a time, not so long ago as to be beyond the memory of many people now living, when almost anything with four walls and a roof was considered good enough for a miner to live in. Since then, however, conditions and ideas have changed so radically that the attitude now assumed by coal producers is: Can anything within reason be sufficiently good to induce the miner to live in it?

Let us compare the miner's house of, say, twenty years ago with the dwelling now constructed by a coal company for its employees. The old house consisted of three or possibly four rooms, rarely more. Sometimes such houses were made double, with four rooms on a side, on possibly two floors.

GREAT ADVANCES MADE IN MATERIALS USED

The dwellings of today are built with anywhere from three to eight rooms or more, depending on the size of the family to be accommodated. Sometimes these structures are single and sometimes double. The rooms may be all on one floor or upon two or three floors. Some companies have built two-family houses, others construct their houses double, so that by making a slight and inexpensive change in interior arrangements they may be converted into one large house, wherein as many as three small families may live.

As the houses have changed, so have the materials used in their construction. Formerly anything that could be considered as lumber was employed. Tar paper was placed upon the roof and the interior was ceiled sometimes with rough lumber and sometimes with tongued and grooved boards. Stoves were used for heating and holes were left in the chimney to receive stovepipes.

Materials that enter into mining-house construction today, however, are the best that can be procured. Clapboards are employed on the outside, or the buildings are constructed of concrete or vitrified tile left bare or stuccoed. Asbestos or slate shingles are used on the roof as well as the better grades of rubberoid roofing. Hard or semi-hard tongued and grooved flooring is laid, while the walls are lathed and plastered or covered with wallboard. Bathrooms are now being provided, and the cellar often contains a heating furnace. Every room also is wired for electric lighting.

READING COMPARES REPAIRS WITH WALLBOARD

It may thus be readily seen that modern construction of miners' houses varies radically from that employed twenty years ago or more. Probably one of the latest of modern building materials coming into use exten-

sively is wallboard. The Philadelphia & Reading Coal & Iron Co., the largest producer of anthracite coal in Pennsylvania, has begun to use this material exclusively for the repair of all walls.

In the construction of new dwellings this company is still using lath and plaster, not on account of any objection to the wallboard itself but because the lumber used in the construction of houses is apt to be imperfectly seasoned, and when the wallboard is placed directly on the studding and this dries out it warps. This springs the wallboard and ruins its appearance although not detracting in the least from its usefulness.

In its repair work this company is now using as much as three carloads of wallboard in a year. Miners and their families as a rule are hard on the houses they live in. Families in many instances are large, and the children romp and play through the house with a freedom, abandon, and violence that is likely to cause the plaster to crack and fall.

When this occurs the company does not replaster the rooms but tears down the old plaster from the ceiling or the wall, as the case may be, and puts wallboard in its place. Sometimes, of course, only the ceiling is repaired; sometimes one or more walls, while in other cases whole rooms are covered with this material.

WALLBOARD NAILED OVER THE OLD PLASTER LATH

It has been found unnecessary to take down the lath; in fact, better results are obtained when the lath is left in place, as this gives a backing for the board and strengthens it. This material is particularly valuable for the repair of old buildings. As everyone knows who has had charge of houses, old plaster when torn down is hard to replace, because the new material refuses to clinch upon the old lath, and consequently is likely to fall within a short time after being put in place. No trouble of this kind is ever experienced with wallboard. No matter how old the lath may be, it will still permit the nails holding the board to enter it and secure a good hold.

One great advantage possessed by wallboard over plaster in repair work is the ease, rapidity and cleanliness with which it may be placed. This is particularly advantageous where the work has to be done while a family is living in the house being repaired. A little sawdust and a few pieces of board have to be swept up, but this is considerably easier than cleaning up after plasterers.

Another advantage lies in the fact that only the board itself and a few nails need to be taken to the job. With plaster it is necessary to transport a mixing box for lime, the necessary sand, and a considerable number of tools, all of which must be returned when the work is completed.

Wallboard also lends itself to decoration much more readily than does ordinary plaster. The cracks between

the board sections are covered with strips of the board itself, giving the effect of panels. Sometimes the tenants paint or grain these to make them look like wood. The space between the strips often is papered, painted or kalsomined. Sometimes the occupants fresco the walls or otherwise decorate them to suit their preferences. This they would not be likely to do if the walls were simply plastered, but since the wallboard lends itself so readily to decoration of this kind it seems to have an irresistible influence in impelling tenants to decorate, thereby adding to the attractiveness of their homes.

WALLBOARD IS WARM, SOUNDPROOF AND DURABLE

There are numerous other advantages attendant upon the use of wallboard. It withstands the bumps and thumps of romping children better than does plaster. It is particularly useful in the kitchen, as this is the room most continuously used in a miner's house, and consequently subjected to the hardest wear. The rooms where it is employed seem to be warmer than those with ordinary plaster on the walls, and the board is no better conductor of sound than is plaster.

Another advantage is that upon those occasions when a bursting water pipe or a leaking roof permits water to gain access to a ceiling, it does not loosen and come down as the ordinary wall covering is likely to do. Paint appears to soak into wallboard and does not peel off, as it sometimes does when placed upon a hard plaster finish or upon wood.

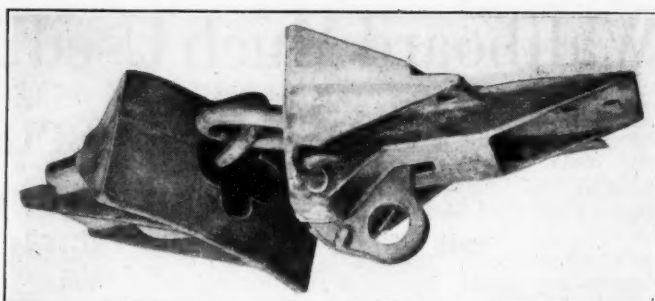
All in all, therefore, wallboard appears to be a much better material than plaster to employ in repair work. If the lumber of which the house is constructed is thoroughly seasoned, it is better to use it when the house is first built. One thing, however, must be carefully watched in the use of wallboard, and that is to see that it is dry when applied, for otherwise it may warp.

Mine-Car Coupler Which Reduces Accidents

A NEW type of mine-car coupler has been developed and placed on the market by the Electric Steel Co. of Indiana, of Indianapolis. This differs radically from existing types and apparently possesses several appreciable advantages.

As may be seen in the accompanying drawing, this device consists of a male and female bumper together with two coupling links permanently fastened to the male bumper. This bumper is provided with an aperture cruciform in cross-section, the lower leg of the cross being open downward. The inner link, pinned to the bumper, is free to move within the vertical opening of the cruciform aperture, while the outer link, engaging the inner one, is free to move in the horizontal opening of the cross. When the outer link is pushed into the male bumper as far as it will go, nearly half its length protrudes beyond the bumper surface while the inner link hangs downward, supported from the outer link. The female bumper is provided with a rectangular opening splayed outward. In this a latch operates.

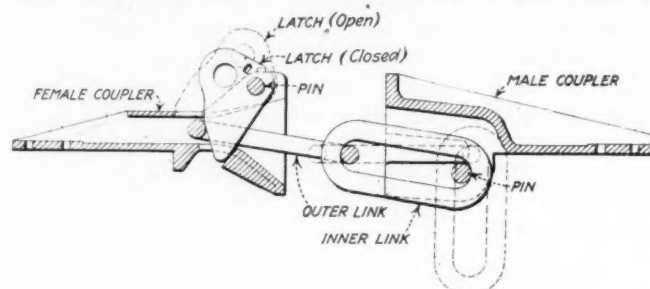
In coupling cars the outer link is pushed into the male bumper as far as it will go, when it stands in a practically horizontal position. The cars are then bumped together and this link is forced into the flaring opening of the female bumper until the latch is pushed upward and finally drops back through the opening in this link.



MINE-CAR COUPLER DESIGNED TO RENDER TRIP-MAKING SPEEDY AND SAFE

Male coupler, to which the links are permanently attached, has an opening in the form of a cross into which both links can be pushed, one vertically and the other horizontally. The female coupler, on the left, has a latch that engages the link when it is pushed into place.

In uncoupling sufficient slack is given the links to permit the latch to be lifted. This releases the outer link and allows the cars to be separated. Sufficient play is given the outer link in the openings of both bumpers to permit coupling and uncoupling even on sharp curves.



CROSS-SECTION OF CAR COUPLER

Coupled position is in solid lines, uncoupled in a series of dashes. Outer link is guided into the female coupler by the converging sides of the opening and when it has reached the desired point, the latch, which is lifted by the link, falls automatically into place and makes a firm connection.

As is well known, many men are injured, seriously or slightly, in coupling and uncoupling cars while making up or breaking up trips. Such a device as this therefore will go far to decrease the dangers to which men in the transportation department are subjected. Some people who have used this device assert that it decreases such accidents by more than 90 per cent. This device has been given a thorough tryout at one plant, having been in use for more than a year.

Transit Company Would Increase Fares Because of High Cost of Coal

INCREASED cost of coal has been laid before the Washington public by the Washington Railway & Electric Co. Some say it is in justification for an intention of the company to ask the local utilities commission for an increase in car fare. The company has had printed and posted, two each, in all of its cars operating in the city, the following poster:

"How the price of coal affects the Washington Railway & Electric Co.

"Bituminous coal cost the company \$3.25 per ton in 1916.

"As a result of 11 consecutive increases (two of these since August, 1920) the price is now \$8.43 per ton, an increase of 159 per cent.

"This company and its subsidiaries burn 220,000 tons of coal annually.

"The annual coal bill has increased since 1916 from \$371,683 to \$1,850,000.

"These interesting facts are presented for the information of our patrons.

"WASHINGTON RAILWAY & ELECTRIC CO."



Problems of Operating Men

By
James T. Beard



Machinery in Coal Mining

The rapid growth of machinery of every kind in coal mining leaves no room to doubt that the day is not far distant when practically all classes of work will be performed largely by the aid of mechanical devices of different kinds.

WRITING on this subject, Richard Bowen urges the idea that mechanical equipment will prove the actual solution of most of the growing difficulties in coal mining. In his letter, *Coal Age*, Sept. 23, p. 641, he argues that the sentiment of miners should favor the increased use of machines in mines for the reason that such equipment lightens their labor.

So great is the increasing demand for coal, that human labor unassisted cannot expect to long supply what is needed. As a result, we see on every hand the human factor giving place to new and improved machinery. But notwithstanding this trend of the times there are many who still hold that the old-time methods are better. It is difficult to see on what this claim is based when we consider the increased efficiency and the multiplied tonnages that have come through the introduction of mechanical equipment.

WHY ARE NOT COAL LOADERS MORE COMMONLY USED IN THE MINES?

There is one class or division of the work, however, where the use of machinery has not been received with the same favor as in other branches. I refer now to the use of coal-loading machines in the mines. Most mining men will agree that the loading of coal at the face, after the common practice, using the shovel, is a most wasteful process. We have adopted haulage locomotives, coal-cutting machines, conveyors, mechanical cagers, trip-feeders, pumps and mechanical ventilators, all of which are to be found in many large, up-to-date mines; but where are the coal-loading machines.

The fact that the loading of coal at the working face is one of the most burdensome tasks that the miner must perform, causes one to wonder that coal loaders have not been introduced more universally. Having seen some of these machines in operation, I predict that with slight changes in the machines and, in some cases, adapting the method of mining to their use, a great advance will be made in this line of work.

Few will deny that the present is a mechanical age, and the tendency is to perform all kinds of work with the aid of machines. While I am neither a prophet nor the son of a prophet, I feel that it will not be many years before all classes of work relating to the mining of coal, its handling and transportation, will be accomplished through the use of mechanical equipment.

As has been stated, this should not cause any howl on the part of labor. The introduction of machines will doubtless change the order of things and make the work easier to be performed. There will be a larger produc-

tion and work enough for everyone, but it will not be the burdensome task of present-day mining. If we compare the future with what we have seen accomplished in the past by the aid of machinery, we must admit that the day is coming and not far away when the human factor in production will be small indeed, in comparison with what it is at present.

A few years ago water was collected from different parts of the mine in water cars and hauled to the bottom where it was hoisted to the surface. Today, pumps, siphons and pipe lines conduct the water from where it accumulates in the mine, and discharge it above ground. It used to be the custom to haul coal by mules from the working face to the tippie, but locomotives have long since replaced the mule in coal mining, and a single machine now does the work of five or six animals at less expense and in less time. If I do not miss my guess, the next five years will see a large amount of machinery going into the mines, and mine managers will do well to give this a thought.

Hillside, Ky.

OSTEL BULLOCK.

Staying Qualities of Roller Bearings in Mine-Car Service

The results of practice in the use of roller bearings for mine cars appear to discount all the arguments made to substantiate the claims of those who still adhere to the old style of plain-bearing equipment. Numberless factors exist that tend to strengthen prejudice in favor of any equipment that has been long in constant use. There is naturally a dislike to change equipment already installed.

TRUE it is that, as suggested in the article of W. H. Noone, *Coal Age*, Aug. 26, p. 449, plain-bearing mine carwheels are frequently much underestimated; but it is in a different sense from that intended by Mr. Noone. The underestimate of that type of bearing occurs in the matter of its cost of operation, which is always supposed to be less than the actual.

Few of the users of plain-bearing wheels keep an accurate account of the cost of repairs, replacements and lubrication. If this was done it would be found that the expense of keeping such wheels in service is much greater than they had ever dreamed. While I do not question that in a few instances the cost of lubricating plain-bearing wheels is \$2.46 per car per year, as claimed by Mr. Noone, it is my belief that these are exceptional cases.

One operator who has 2,000 cars in use equipped with flexible roller bearings told me the other day that his cost of lubrication was \$1.06 per car per year; and he had all the figures before him when making that statement. But, as in the previous case, I must admit that this low cost is exceptional. Experience and observation lead me to estimate the average cost of lubricating roller-bearing cars of the spiral type as

\$1.25 per car per year; and this may increase to \$1.50 per car per year under less favorable conditions.

In my opinion the plain-bearing mine carwheel is headed for the scrap pile as sure as the sun shines. Some eight or ten years ago the plain-bearing, self-oiling, mine carwheel was the best on the market. It was far superior to the old type of wheel having a straight bore without any receptacle to hold the lubricant. Today the flexible roller-bearing wheel is as far superior to the plain-bearing wheel as the latter was superior to the old type that it supplanted.

RECOMMENDED BY MANUFACTURERS AND USERS

The fact that 95 per cent of reputable mine-car manufacturers advertise and recommend the roller-bearing type of wheel is *prima facie* evidence that roller-bearing equipment is better adapted for mine service than the best possible style of plain-bearing wheel. I have never known anyone to continue buying equipment that did not give good service, even though it could be had at a lower price. But, considering the fact that operators are buying roller-bearing equipment at an advance of from 20 to 25 per cent over the cost of plain bearings, it would seem beyond a doubt that the roller-bearing type gives the best service for the money. It seems unreasonable to suppose for a moment that large operations conducted on a small margin would purchase equipment that did not pay, or that the manufacturers of such equipment would recommend its use, unless they had proven to their own satisfaction its value. Anything else would not be good business.

It cannot be denied that there are hundreds of mines, today, that have been in operation for nine or ten years and still use the old plain-bearing wheels, which was the only type of mine carwheel in use when those operations were started. Owing to the advance in the price of all kinds of equipment during the last four or five years operators who have four or five hundred mine cars equipped with plain bearings hesitate to scrap this material. Hoping that the prices of the better equipment would be reduced to a more normal level many have continued to buy the old type of bearing.

OPERATORS NOW REALIZE THE SAVING EFFECTED

For the most part, however, operators have now come to realize the possible saving in the cost-sheet through improved bearings that greatly reduce the outlay for labor required in lubricating the old style of equipment and replacing wheels that are so badly worn in the hub as to be unfit for further use, although the tread of the wheel is still good. In addition to these items must be considered the loss of tonnage due to many idle cars laid up for repairs.

Owing to the greater liability to wrecks occurring in mines having steep grades, Mr. Noone lays considerable stress on this point and says, "The grades of a mine will invariably dictate the type of bearing that is more economical and practical to employ in hauling." This statement does not appeal to me, since the cars equipped with either type of bearing must be controlled by a suitable brake. Again, when a plain-bearing car is caught in a wreck and the wheel casting broken it is necessary to replace the entire wheel; but if a roller-bearing wheel is broken it needs only to have the bearing removed and placed in another wheel casting, which is quickly done.

The point to be kept in mind is that in mines where the roads are level the drawbar pull and track resistance

due to friction of bearings are much less in the use of roller-bearing equipment than in plain-bearing cars.

Speaking of lubricating mine cars, the use of black oil or "blackstrap," like plain-bearing carwheels, is fast being replaced by a good grade of grease, which is now used to lubricate both plain- and roller-bearing cars. Although the first cost of the grease is greater than that of the oil its longer life makes its use desirable. When a plain-bearing wheel is not badly worn in the bore it holds the grease fairly well; but it is practically impossible to prevent sand or grit from working into the bore of a carwheel, which is quickly ground out and enlarged. The tendency is to squeeze the grease toward the back of the wheel, which has become more enlarged than the remaining portion of the bore. In that case the wheel does not retain the grease long at a time and the lubrication of the car becomes more and more expensive.

Not long ago I investigated a pile of scrapped wheels, some of which were wanted for another purpose. These wheels were originally bored for a 2½-in. axle. Of fifty wheels examined, the bores of eighteen were under 2½ in. in diameter, while the remaining thirty-two varied from 3 to 3½ in. in diameter at the rear of the hub. The date of the casting appeared on each wheel, and it was found that some of them had only been in use three and others four years.

ROLLER BEARINGS OUTWEAR BEST CHILLED TREADS

These wheels were made by four of the best wheel manufacturers in the country, which shows how easily this type of wheel becomes worn and is ready for the scrap heap. Just here it is well to note that the steel hub or steel lining of a roller-bearing wheel will last many years longer than the cast iron of a plain-bearing wheel mounted on a steel axle. Naturally, there is less wear and friction in the rolling action of such a bearing than in the sliding motion of a plain bearing.

In my experience it is very rare to find a plain-bearing wheel having a perfectly good bore and a worn-out tread, provided the latter has been properly chilled. In the large majority of cases the tread is found in perfect condition when the bore has been worn and greatly enlarged. Wheels with flat places on the tread are often found, but this is the result of spragging the wheels. A roller bearing will generally outwear a well-chilled tread, which should always be good for many years.

Referring to the Carbondale test, Mr. Noone expresses the belief that the poorest type of plain-bearing equipment was used; but it is my understanding that the plain-bearing equipment employed was considered exceptionally good by the many operators who were present at the test.

In closing let me cite an instance of a mine equipped with roller-bearing cars where the length of haul was thirteen miles for each round trip. In that instance a plain-bearing wheel if not thoroughly lubricated would have been ruined in making a single trip. The superintendent informed me that they lubricated the cars but twice a year, or once every six months.

Facts such as these are difficult to gainsay. In my opinion the only people who are not in favor of roller-bearing equipment are those who have never used the flexible type of bearing. Mr. Noone may be getting excellent results with his plain-bearing cars, but the change to roller-bearing would surely surprise him.

Huntington, W. Va.

OBSERVER.

Record Earnings of Miners

REFERRING to the item published in *Coal Age* Sept. 23, p. 621, in which it was stated that a Pennsylvania miner employed in the Marion mine of the West Penn By-Product Coal Co., drew \$245 as his pay for two weeks, after having missed one day in that time.

While this is an excellent record, I ran across another a few days ago that makes this one look as though the man was a "piker." It was last month when I was visiting No. 3 mine of the Peabody Coal Co. for the purpose of investigating a fatal accident that occurred in that mine.

On coming to the surface a few of us fell to discussing things, as mining men will when they get together. This time the question of wages came up and Clem Plodeck, the superintendent of the mine, remarked that two men working a couple of 12-ft. entries on shares drew \$783.34 the previous pay. One of the men had \$20 more in his envelope than the other. The superintendent stated that the men were hard workers, each loading roughly 20 tons of coal a day. If my recollection serves me rightly, I believe I have given the exact figures; but this is certainly a remarkable showing.

W. L. MORGAN.

Greenville, Ill.

Are Safety Inspectors Needed Under the Indiana Mining Law?

An extremely limited view of the duties and responsibilities of safety inspectors in mines is here presented, and the thought expressed that the oversight and instructions required by law to be given by practical miners to their laborers is all that is needed to insure safety.

THE mining law in the State of Indiana requires that every man, before he is permitted to work independently as a miner at the coal face, must pass an examination and answer questions to prove that he is a practical miner. Until then, he must work with a person who has passed such an examination and received a certificate as a practical miner.

Under this law, it seems to me that a so-called "safety inspector" is not required, as he would have no opportunity to give needed instructions, except where a miner fails to properly oversee and instruct the man in his charge. I would consider a man who is only permitted to work under the instructions of a certificated miner, as a "miner's laborer."

In my opinion, it is the duty of every practical miner to exercise more care in looking after his laborer than he has for himself. That is really what the law demands; it requires each miner to instruct his laborer in all matters pertaining to safety. Again, the mining law requires the employment of competent shotfirers, in all mines employing more than ten men as miners and where gas is generated in dangerous quantities. It is the duty of these shotfirers to inspect and fire all blasts that have been prepared in keeping with the requirements of the law.

While these two laws, known as the "Shotfirers Law" and the "Miners' Efficiency Law," are long steps in the right direction to insure safety in mines, it cannot be denied that they need revision. They each attempt too much in some respects but are deficient in others. When firebossing it was always my earnest endeavor to

prevent miners from lighting thin layers of gas at the roof, which had escaped detection by the fireboss because the gas did not reach the safety-lamp flame in testing. It would frequently happen that such a thin layer of gas would be fired by a miner's lamp carried in his cap.

My instructions to all miners were to carry their lamp in their hand when entering a place, especially if that place was not in constant use. Miners who have worked long in mines generating much gas acquire habits that others do not possess or think necessary until they have learned a bitter lesson by being severely burned, owing to their lack of caution in the manner of carrying their lamps.

A miner unaccustomed to gas will often brush his head into what is called a "cap-full" of gas, and when this happens such a miner will generally start to run from the place in an endeavor to escape the flaming gas. An experienced miner caught thus will duck quickly to save himself from being burned. These are everyday occurrences in mines generating gas and should be fully treated in the mining law.

W. H. LUXTON.

Linton, Ind.

Inquiries Of General Interest

Proposed Building of Two Dams to Isolate a Pumproom In a Mine

To avoid the possibility of the pumps in a mine being flooded it is proposed to isolate the pumproom by building two dams, one in the sump opening above the water level and the other closing off the pumproom from the workings where the water accumulates.

OWING to water accumulating under a head of 30 ft. measured from the pumproom floor, it has become necessary to devise some means of isolating the pumproom from the mine workings, in order to avoid the possibility of the pumps being submerged and rendered useless for service.

In this instance, the sump which is 8 x 13 ft. in section, is sunk in the floor of the pumproom, and the water ordinarily stands at a level of 8 ft. below the floor. The sump is directly connected with the mine workings where the water accumulates under a possible head of 30 ft. above the pumproom floor.

It has been proposed to completely isolate the pumproom from the workings, by building two dams. The smaller one is to be built in the sump opening above the water level and must withstand an upward pressure due to a head of 38 ft. The second and larger dam is to be built in the opening of the pumproom, which has a height of 16 ft. and a width of 23 ft. In order to give sufficient clearance space for the changing of the piston rods on the pump, it is necessary to restrict the thickness of this dam to four feet.

In the accompanying sketch, I have attempted to show the general arrangement in respect to the position of the two dams and the location and size of the sump. I want to ask for a general description of what will be necessary in the way of reinforcement, assuming these

dams are built of good concrete. Kindly give the size, weight and number of I-beams that will be required in each dam to withstand the pressure due to a possible head of 30 ft. above the pumproom floor. Please show the arrangement of the reinforcing beams and the method of anchoring them in the sides of the opening. The pumproom and the sump are in solid rock.

_____, Pa.

ENGINEER.

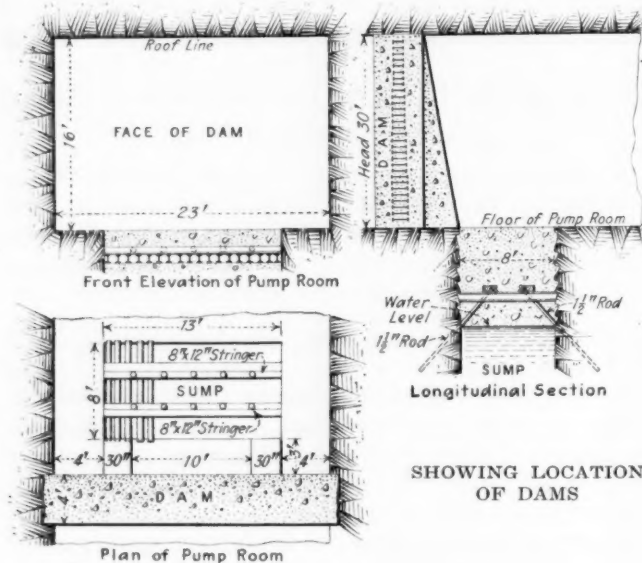
First, regarding the dam to be built in the opening of the sump, it is assumed that this must withstand a pressure due to a head of 38 ft., which is $38 \times 0.434 = 16\frac{1}{2}$ lb. per sq.in., or 2,376 lb. per sq.ft. We will estimate the size of the I-beams, for a span of 8 ft. and a uniformly distributed load, spacing the I-beams 9 in., cen. to cen. The load on a single beam is then

$$L = \frac{1}{2}(2,376 \times 8) = 14,256 \text{ lb.}$$

For a uniformly distributed load, the section modulus (S) is equal to the load (L), in pounds, multiplied by the length (l) of the span, in inches, and divided by 8 times the fiber stress (f), which we will assume as 12,000 lb. per sq.in. This gives for the required section modulus of a single beam, in this case,

$$S = \frac{Ll}{8f} = \frac{14,256(8 \times 12)}{8 \times 12,000} = 14.3$$

Referring to the tables giving the strength of I-beams, (Pocket Companion, Carnegie Steel Co., p.



175), we find for this section modulus, an 8-in. I-beam weighing 18 lb. per ft. Spacing these beams 9 in. cen. to cen., will require eighteen beams, say 8 ft. 6 in. in length, to close the opening, allowing 3 in. to be hitched into each sidewall of the sump. The total weight of these I-beams is $18(8\frac{1}{2} \times 18) = 2,754$ lb.

Estimating the weight of concrete, that will fill the opening above the water level, taking the weight of good crete as 144 lb. per cu.ft., we have $8(8 \times 13)144 = 119,808$ lb. This makes the total weight of the concrete and the I-beams embedded in it, say 122,000 lb.

For a head of 38 ft., the upward pressure of the water on this dam is $2,376(8 \times 13) =$ say 247,000 lb. Deducting the weight of the reinforced concrete dam, gives for the lifting force due to the pressure of the water, $247,000 - 122,000 = 125,000$ lb. In order to realize the full strength of the reinforcing I-beams, these must be embedded in the concrete, as indicated in

the figure, where we have shown the method adopted to overcome the excess of lifting pressure, previously estimated as 125,000 lb.

Referring to the figure, it will be observed that the side and endwalls of the sump opening have been roughened so as to present a saw-tooth surface that will assist in holding the concrete mass in place. In addition to this, heavy wooden stringers, 8 x 12 in. in section, are laid over the I-beams. The stringers are tied together temporarily by rods to prevent their slipping.

The entire structure is anchored by diagonal rods $1\frac{1}{2}$ in. in diameter. Each rod has a safe breaking strength of 17,500 lb. but, being diagonal exerts a resistance of about 12,500 lb. against the lifting pressure of the water. It will be safe to estimate on using ten of these rods, five on each side, anchored to a depth of 5 ft. in the solid rock, or 40 times the diameter of the rod.

All being in readiness and a temporary floor, having been laid at the surface of the water to support the concrete while setting, the entire space is filled with good concrete, consisting of one volume of clean sharp sand, 3 volumes hydraulic cement and 5 or 6 volumes of broken rock. The concrete is well rammed as it is put in, and brought up to the level of the pumproom floor.

CALCULATION OF THE LARGER DAM

In regard to the larger dam closing the opening to the pumproom, 16 x 23 ft., this dam is restricted to a thickness of 4 ft., in order to give the necessary clearance for changing the piston rods. On this account the concrete will need to be heavily reinforced by large I-beams, laid horizontally and embedded in the concrete wall, in the manner shown in the cross-section of this dam. The head effective at the top of the dam is 14 ft. giving a pressure of $144(14 \times 0.434) = 875$ lb. per sq.ft. Here the span is 23 ft. and, spacing the beams 6 in. cen. to cen. gives for the uniformly distributed load on a single beam, $L = \frac{1}{2}(875 \times 23) = 10,060$ lb. The section modulus for this beam is

$$S = \frac{10,060(23 \times 12)}{8 \times 12,000} = 28.9$$

Referring to the table giving the strength, dimensions and weight, of I-beams, we find that 10-in. I-beams weighing 35 lb. per ft. will be required at the top of the dam. Again, for a head of 30 ft. at the floor of the pumproom, the pressure is $144(30 \times 0.434) = 1,875$ lb. per sq.ft. For a span of 23 ft. and spacing the beams 6 in. cen. to cen., the uniformly distributed load on a single beam, at the bottom of the dam, is $L = \frac{1}{2}(1,875 \times 23) = 21,560$ lb. The required section modulus to carry this load on a span of 23 ft. is

$$S = \frac{21,560(23 \times 12)}{8 \times 12,000} = 62.0$$

Referring to the table, we find a 15-in. I-beam weighing 50 lb. per ft. will be required at the bottom of the dam. As indicated in the figure, the size and weight of the beams can be reduced from 15-in., 50-lb. beams at the bottom of the dam, to 10-in., 35-lb. beams at the top.

We would suggest buttressing this wall by two buttresses of concrete, each 30 in. wide and 3 or 4 ft. long at the bottom, tapering to nothing at the top. These buttresses can be placed, say 10 ft. apart, on the front face of the dam, or otherwise conveniently arranged to give the necessary clearance for removing the piston rods when the occasion demands.

Examination Questions Answered

Miscellaneous Questions

(Answered by Request)

QUESTION—What materials would you use in the construction of stoppings, in the ventilation of a mine?

ANSWER—Permanent stoppings built on main haulage roads and air-courses should be more substantial than those on cross-entries and other headings of shorter life. The materials employed are concrete or masonry, either brick or stone laid with good cement. On the other hand, more temporary stoppings are usually built of the refuse of the seam. A double wall of shale or slate is built having an 8- or 10-in. space between filled with the dirt taken from the mine roads. All stoppings should be constructed of incombustible material and wooden stoppings should not be used.

QUESTION—Is there any objection to shooting coal off the solid in the State of Kentucky? Explain why.

ANSWER—Only in a few exceptional cases should the practice of shooting coal off the solid be permitted. The practice is in use in portions of the anthracite region where the coal is hard and makes little dust and the practice is not considered dangerous. In the State of Kentucky, however, the coal is soft and often friable, making much dust in the mining. For this reason coal should not be shot off the solid in that state. The fine dust accumulating at the working face is liable to cause a dust explosion if a blownout or windy shot should occur in blasting.

QUESTION—How should a man organize a crew of rescuers when no rescue apparatus is available, and what equipment should he use in training the men and fitting them for their work?

ANSWER—When no suitable rescue apparatus is available that would enable rescuers to enter and work in a foul atmosphere containing irrespirable, poisonous and often explosive gases the training of a rescue crew must proceed with caution. Careful instructions must be given that the mine must be entered on the intake air, and no advance must be made ahead of the restored air current. The men must be equipped with an approved type of safety lamp and taught how to prepare it for use and handle the same in gas. They must be further equipped with and instructed how to use caged birds or mice for the purpose of detecting a poisonous atmosphere containing carbon monoxide. Rescuers must be instructed to take no chances that are unwarranted, the only exception to this rule being when there is a reasonable chance of saving lives. The instructions must include the quickest and best methods of restoring circulation in a mine and the crew must be equipped with all necessary tools and supplies for that purpose.

QUESTION—(a) What percentage of carbon monoxide in the mine air will explode? (b) How many volumes of gas to air are there when the mixture is at its lower explosive limit? (c) What is the ratio of volume at

the higher explosive limit? (d) What is the ratio of volume when the mixture is at its maximum explosive point?

ANSWER—(a) The explosive range of carbon monoxide mixed with air when no other gases are present reaches from 16.5 to 75 per cent of gas.

(b) The ratio of the volume of gas to air when carbon monoxide is at its lower explosive limit is one volume of gas to six volumes of air.

(c) A mixture of carbon monoxide and air is at the higher explosive limit when the volume ratio of gas to air is 1:1½; or when three volumes of gas are mixed with four volumes of air.

(d) The mixture of carbon monoxide and air is at its maximum explosive point when the volume ratio of gas to air is 1:3½; or eight volumes of gas are mixed with twenty-seven volumes of air.

QUESTION—Assuming that, on taking charge of a mine, you find the following air splits: 1-2 E.N., working 18 men and 2 mules, passing 6,500 cu.ft. of air per minute; 3-4 E.N., working 14 men and 1 mule, passing 4,000 cu.ft. of air per minute; 5-6 E.N., working 10 men and 1 mule, circulating 3,500 cu.ft. of air; and 5-6 W.N., working 6 men and 1 mule, with a circulation of 1,500 cu.ft. of air; what changes, if any, would you make in order to comply with the Kentucky State Laws?

ANSWER—The total amount of air in circulation in this mine is 15,500 cu.ft. per minute. Since the mining laws of Kentucky require a circulation of 100 cu.ft. per minute for each man employed in the mine, and say nothing in regard to the number of mules underground, the total quantity of air entering the mine is ample in this respect.

However, the air is not distributed between the several entries in proportion to the number of men and mules working in each. Many state mining laws require the circulation of 500 cu.ft. of air per minute for each mule employed underground, which makes a mule equal in this respect to five men. On this basis there is the equivalent of $48 + 5 \times 5 = 73$ men at work in the mine, and a more equable distribution of the air current would therefore be the following:

1-2 E.N., 28/73 (15,000) = say 6,000 cu.ft. per min.

3-4 E.N., 19/73 (15,500) = say 4,000 cu.ft. per min.

5-6 E.N., 15/73 (15,500) = say 3,200 cu.ft. per min.

5-6 W.N., 11/73 (15,500) = say 2,300 cu.ft. per min.

This shows that the first of these four splits is taking 500 cu.ft. of air in excess of its right proportion. In the second split no change is required in the circulation; but the third split is receiving an excess of 300 cu.ft., while the fourth or last split lacks 800 cu.ft. of air per minute.

In order to accomplish this distribution of the air it will be necessary to place a regulator in each of the first three splits, since a regulator placed in the first split will naturally increase the volume in the second split and give it an excess over its right proportion. The openings in these regulators must be proportioned so as to give the desired results.

QUESTION—A workman worked eighteen and one-half days at \$4.50 per day; how much should he receive in case of an advance of 12 per cent?

ANSWER—An advance of 12 per cent if wages are \$4.50 per day, is $1.12 \times 4.50 = \$5.04$ per day. At this increased rate, the amount due for eighteen and one-half days work is $18\frac{1}{2} \times 5.04 = \93.24 .



Foreign Markets and Export News



To Study Argentine Coal Deposits

According to Trade Commissioner Brady, at Buenos Aires, the Argentine Congress has before it a project for the appropriation of a million pesos (normal value of peso is \$0.4246 United States Currency) for the purpose of making an extensive study of the Argentine coal deposits, particularly in the provinces of Mendoza, San Juan, La Rioja and Catamarca.

It is proposed that a special section for this purpose be organized in the Bureau of Mines, and that the above amount be figured as the budget to cover the expenditures of two years. Studies of the Argentine coal fields previously made by American and British mining engineers have indicated that Argentine coal is of an inferior quality, although no thorough prospecting has ever been done.

British Export Allocations Being Made

Consul General R. P. Skinner, London, states that the resumption of work by the miners on Nov. 8 has caused a gradual revival of shipping activity. As supplies were exhausted in many ports some delay occurs pending arrival of bunkers from mines. The November allocations of coal for export are being made and chartering is being resumed. The most noticeable result of the strike is the curtailment of British export business in coal. American and German coal was purchased on the Continent during the strike at less than British export price.

Production figures available show that the output for the week ended Oct. 16 declined slightly, as shown in the following table:

October 2.....	4,702,800 tons
October 9.....	4,713,100 tons
October 16.....	4,611,600 tons

Belgian Prices Are Increased and Production Shows Improvement

Coal mining in Belgium is due for greater development with the exploitation of two new basins, that of Campine and of Hainaut, discovered in 1901, according to Consul General Henry H. Morgan, Brussels. Already one mine, that of Winterslag, is in operation and produces 500 to 600 tons a day. It is likely that another will be ready to work during this year, and three others in 1921. Some Belgian coal mines are now extracting more coal than in 1913. The coke situation, which earlier in 1920 retarded the operation of a number of blast furnaces, has appreciably improved, due largely to the regularity of shipments of coke and coking coal from Germany by rail and vessel, to which Belgium is entitled under the Versailles treaty.

The following table gives the commercial movement of coal, coke, and briquets during the first eight months of 1913, 1919, and 1920:

Kinds of Fuel, Imports	January-August			Kinds of Fuel, Exports	January-August		
	1913 Metric Tons	1919 Metric Tons	1920 Metric Tons		1913 Metric Tons	1919 Metric Tons	1920 Metric Tons
Coal.....	5,967,457	77,782	563,282	Coal....	3,290,789	2,654,038	959,158
Coke.....	767,774	315	113,929	Coke....	719,425	210,026	135,988
Briquets...	320,846	20	42,491	Briquets	412,222	259,275	126,499
Total....	7,056,077	78,117	719,702	Total..	4,422,436	3,123,339	1,221,645

Prices have been advanced in Belgium. The advance dates from Oct. 3, and amounts to 3.75 fr. for rough coals, 5.50 fr. for washed and classified coals under 10 mm., and 8 fr. for those above 10 mm. The price of briquets, owing to the increased cost of coal and pitch, has also been advanced, current rates being as follows: Briquets type I,

152 fr.; ditto type II, 155 fr.; ditto marine type, 159 fr.; lean boulets, 139 fr.; semi-bituminous ditto, 141 fr. The official price list for coals is roughly as follows: *Houilles* and *gailleteries*, 121 fr.; *gailletins*, 123.50 fr.; *têtes de moineaux*, 126 fr. to 129 fr.; *greusins*, 121 fr. to 124 fr.; *braisettes*, 101 fr. to 116 fr.; washed *grains*, 88.50 fr. to 93.50 fr.; rough slack (*poussiers*), 71.75 fr. to 81.75 fr.; half-washed slack, 82.50 fr. to 86.50 fr.; washed slack, 81.50 fr. to 88.50 fr.; washed coking smalls, 93.50 fr.; rough *finés*, 75.75 fr. to 86.75 fr.; half-washed ditto, 84.50 fr. to 96.50 fr.; *menu dépoussièrè*, 102 fr. to 106 fr.; screened coals, 123.50 fr.; "National" household coals, 85 fr.; washed forge coals (*grains*), 103.50 fr.; ditto nuts, 108.50 fr. to 126 fr.; coal for producers, 106 fr. to 109 fr. Coke prices have also risen, as follows: Ordinary, 132.50 fr.; half-washed, 144.50 fr.; washed, 168 fr.; special, 173 fr.; *grésillons*, 120 fr.; breeze, 55 fr. In the four months, June—September, Belgium received 200,000 tons of German coal, about a-third of which were coking coals, 25 per cent gas coals, 14.5 per cent house coals, and 14.5 per cent manufacturing coals. From Oct. 1 to 10, 27,255 tons of coking coals were delivered to the account of the coke syndicate, whose new director is M. Frère, formerly commercial director of the Fontaine-l'Éveque Colliery.

Disapproves of Socialization of German Coal Mines

The mining associations in Germany, the *Colliery Guardian* says, recently adopted a resolution emphasizing that the proposals of the Socialization Commission would destroy that initiative on the part of owners which has brought the mining industry to its present state of development, and would create a new bureaucratic, compulsory organization, dependent on Parliamentary factions, and a central directorate which would restore the unsatisfactory conditions obtaining previous to 1865. The resolution proceeded to say that the assumption that socialization would result in the workers taking more pleasure in their tasks is contrary to the experience gained in the operation of the state railways, postal service and workshops. Socialization would mean reduced output and greater cost, and the expense of the experiment would fall on the consumers and workers, while the necessary consequence of extending the principle to other industries would be to retard the industrial reconstruction so essential to the nation.

Following this, the Essen Mining Association has issued a pamphlet reviewing the whole question of socialization since 1918, the work and reports of the Socialization Commission, and the economic condition of the coal-mining industry. In defence of the old system it is pointed out that the alleged monopoly of the coal syndicate has no existence, and that the state was always in a position to prevent any abuse of the syndicate's economic power, being able to arrange freights so as to favor imports and restrict exports, if desirable, and also to exert a powerful influence in the fixing of prices.

Several large coal contracts have been placed with companies in China by Danish and French interests. The Danish State Rys. have ordered 50,000 tons and shipping companies at Marseilles have contracted for 100,000 tons. W. U. Zann, a prominent business man of the Orient, stated that China has not been exporting coal but has been allowing her mines to lie idle while industrial plants used Japanese coal. The high price offered by European markets and the advance made recently by Italy is arousing Chinese commercial men to action.

Coal Statistics Shown to Have National Importance—II*

Value of Distribution Records Revealed in Recent Emergency in the Northwest—Extension of Data Suggested

By F. G. TRYON†

ACURRENT record taken at monthly and in some cases even weekly intervals of the movement of coal from mine to consumer is important even in normal times as a guide to both the shipper and the purchaser of coal. Comparisons of the present movement with records in preceding years will show whether coal is being shipped into a particular locality in normal volume or not, a fact which is of value to the purchaser in laying plans for buying coal and to the shipper as a guide to his selling campaign. When the market becomes disturbed and methods of controlling distribution are being discussed, a record of this movement becomes an imperative public need.

NORTHWESTERN CRISIS TAKEN AS EXAMPLE

The importance of distribution statistics can be made clear by an illustration: A cause of much concern in the present coal year has been a sharp decrease in the movement from the Northern Appalachian region to Lake Erie ports, for transshipment to the head of the Lakes. Now the Northwestern states draw their supply in part from the Lake docks and in part from the mines of the Middle West, particularly Illinois.

To know whether there will be a shortage of coal in the Northwest next winter it is not sufficient to watch the Lake shipments alone. A current record must also be kept of the quantity of coal shipped north, past Chicago, from Indiana and Illinois. For to the extent to which the latter fields are increasing their shipments to the Northwest, a decrease in the Lake tonnage may be viewed with equanimity. The illustration is a simple one and is only one of many that might be cited. Regardless of whether the readjustment of distribution be accomplished by the trade itself or by quasi-public control, a record of the principal facts from week to week is a necessity.

Two methods of recording distribution present themselves, both dependent upon the records of the railroads. The first and most complete is to assemble copies of the waybills for every car of coal shipped, and to tabulate and analyze them in some central office having jurisdiction over all the roads in a given locality. Excellent work of this character is now being carried on by the Ohio Bureau of Coal Statistics, a railroad organization with headquarters at Columbus. Although the results obtained from working up the waybills of coal loaded are accurate in a high degree and susceptible of presentation in great detail, a month or two must elapse before the figures become available.

PROMPTNESS CONSIDERED AN IMPORTANT FACTOR

The advantage of the second method of measuring distribution lies in the promptness with which results can be made public. It consists in holding up the stream of coal on wheels at critical gateways and junction points, establishing, as it were, gaging stations for the measurement of the rate of flow. An example of such gaging records are the figures of cars dumped daily over tidewater piers at the North Atlantic ports. Like the first method, this depends upon the co-operation of the railroads or of the coal exchanges where such organizations exist.

A third method of collecting distribution statistics, which may be used where no records are kept by the railroads, is to assemble statements from the operators themselves through their local associations. To make the record really valuable, however, it must be complete and completeness is difficult of attainment for an operators' organization, membership in which is never compulsory.

The part of the Government in preparing statistics of distribution should, it is submitted, be confined to co-ordinating the work of private agencies and supplementing it where necessary. At present distribution statistics are available covering the following major movements:

- (1) Rail movement through Hudson River gateways to New England—weekly.
- (2) Cars dumped over tidewater piers—daily and weekly.
- (3) Disposition between coastwise, bunker and export of coal handled at Charleston and Hampton Roads piers—weekly.
- (4) Same for all Atlantic ports—monthly.
- (5) Exports from Atlantic ports, by country of destination (lately established by the Department of Commerce)—weekly.
- (6) Cargo and bunker fuel dumped at Lake Erie ports—daily and weekly.
- (7) Destination of same—monthly.
- (8) Coal passing through Sault Ste. Marie canals—monthly.
- (9) Coal received at head of Lake Superior—monthly.
- (10) Exports to Canada—monthly.
- (11) Detailed distribution statistics for coal mined in Ohio—monthly.
- (12) Details of westbound movement from the "Crescent" (Western Pennsylvania, West Virginia and Eastern Kentucky)—monthly.
- (13) Distribution records, more or less complete, kept by operators' associations in Indiana, Illinois and the Rocky Mountain States—weekly or monthly.

SUPPLEMENTAL DATA SUGGESTED

This system of distribution records requires extension and supplementing as follows:

- (1) More complete figures on rail movement to New England—weekly.
- (2) Complete weekly figures as to disposition of coal dumped at tidewater.
- (3) Shipments by car ferry to Canada—weekly.
- (4) All-rail exports to Canada—weekly.
- (5) Shipments westbound from the docks at the head of Lake Superior and Lake Michigan, by destinations—weekly.
- (6) Complete detailed statistics of distribution from Indiana and Illinois and Western Kentucky—monthly.
- (7) Same for Northern and Middle Appalachian region not now covered—monthly.
- (8) Same for Southern Appalachian, including Alabama—monthly.

With these statistics at hand, a comprehensive picture of the distribution of bituminous coal in the territory east of the Mississippi and Missouri—the part of the country where a distribution problem can be said at present to exist—would be possible. As pointed out above, the work can be done most successfully by the railroads and the operators' associations, the government confining its activities to co-ordinating the reports of other agencies and occasionally to collecting the details where no local agency exists. The Fuel Administration's records of distribution during the war period furnish a background against which to measure present performance in the distribution of coal. That the government must itself undertake the final collection and analysis of the results is clearly indicated by the jealousies between shippers and carriers which militate against the free exchange of information between them. The total cost to the government of obtaining these distribution figures would probably not exceed \$10,000 a year, if the work were carried on in conjunction with other studies of coal production and distribution.

W. F. MCKENNY, formerly special agent with the Bureau of Labor Statistics, who has done most of the field work in gathering data on coal for that bureau during recent months, is now in the coal section of the Geological Survey.

HERMAN N. SULLIGER, engineer, who was appointed during the war to make power investigations in connection with the conservation of fuel, has resigned from the service.

*Second instalment from a paper entitled "Control Statistics of Coal Production and Distribution." Third and last instalment will appear in a later issue.

†U. S. Geological Survey.

Substitution of Fuel Oil for Coal Is Less Than 1 Per Cent in Eleven Months

INTERESTING conclusions as to the extent to which fuel oil has been substituted for coal by industrial and electric utility plants are to be drawn from a study of stocks and consumption recently completed by the Geological Survey in co-operation with the U. S. Bituminous Coal Commission. The purpose of the survey was to ascertain the extent of consumers' stocks as an item in the requirements for necessary production during the summer of 1920. A detailed stock report may be had upon application to the director of the Geological Survey.

The questions concerning stocks were so phrased as to disclose the substitution of fuel oil for coal if the plant had made the change between April 1, 1919, and March 1, 1920.

The inquiry was addressed to representative consumers selected at random and scattered throughout the country. The replies therefore would indicate where the change from coal to fuel oil had been most common and would give an approximate idea of the extent of the change. The results are summarized in the accompanying table, prepared by F. G. Tryon.

DATA REPRESENT HALF ELECTRIC PLANT CONSUMPTION

Reports were received from 317 electric utility plants, which consumed about half of the total required by electric plants as a group. Of this number it was found that nine had changed over from coal to fuel oil. The quantity of coal displaced was 43,059 tons per quarter, or about 1 per cent of the quarterly consumption of the plants canvassed.

Of the 2,347 industrial plants canvassed it was found that 69 had substituted fuel oil for coal. The proportion of the total coal consumption of this group of plants displaced by fuel oil was again small, amounting to 1.1 per cent.

These facts indicate that over the country as a whole

the competition of fuel oil during the period of low prices of crude following the armistice was not of serious proportions. On the average for all consumers the amount of coal displaced appears to have been considerably less than 1 per cent of the normal demand.

In certain localities, however, the competition of fuel oil was much more effective. Regions close to the great producing oil fields, and particularly the coastal belt along the Atlantic and the Gulf of Mexico, felt the competition of fuel oil keenly. An idea of the magnitude of the substitution of oil for coal in those localities may be found in the fifth column of the table, although the percentages given are to be regarded as suggestive rather than definitive. In the interior of the country, away from the coast and the producing oil fields, the quantity of coal displaced by oil was negligible.

Bituminous Coal Production in Central Pennsylvania*

(In Net Tons)†				
Period	1917	1918	1919	1920
January.....	5,103,621	4,637,131	5,114,716	4,351,827
February.....	4,351,331	4,666,093	3,148,078	3,635,195
March.....	5,260,725	5,318,134	3,482,408	5,002,992
April.....	4,497,326	5,084,292	3,404,602	4,254,075
May.....	4,840,767	5,214,803	3,649,957	4,105,668
June.....	5,044,325	5,395,048	3,831,680	4,404,480
July.....	4,851,237	5,590,414	4,386,820	4,705,956
August.....	5,139,502	5,702,102	4,832,219	4,947,492
September.....	4,716,933	5,104,013	4,865,074	5,162,333
October.....	5,311,568	5,265,562	5,580,692	5,112,382
Total 10 months.....	49,117,335	51,975,592	42,296,246	45,721,400
Average monthly.....	4,911,732	5,197,559	4,229,625	4,572,140
November.....	5,174,841	4,137,915	1,205,294	.....
December.....	4,366,641	4,401,611	3,044,841	.....
Total for year.....	58,658,817	60,515,118	46,546,381	.....
Average monthly.....	4,888,235	5,042,927	3,878,865	.....

* Includes boiler fuel, coal coked and local sales.

† Figures supplied by Central Pennsylvania Coal Producers' Association.

REPRESENTATIVE PLANTS WHICH CHANGED FROM COAL TO FUEL OIL BETWEEN APRIL 1, 1919, AND MARCH 1, 1920 a

(Consumption in Net Tons)				
	Plants Canvassed and Reporting Former Quarterly Coal		Plants Which Had Changed from Coal to Fuel Oil Former Quarterly Coal	
	No.	Consumption	No.	Consumption
Electric utility plants:				
Alabama.....	9	116,142	1	2,635
Arkansas.....	6	27,598	1	1,692
Georgia.....	7	17,753	2	13,322
Kansas.....	9	109,814	1	12,384
Mississippi.....	4	14,089	2	7,682
Texas.....	7	25,756	1	1,744
West Virginia.....	8	56,159	1	3,600
Other States.....	267	4,238,530	..	.....
Total electric utilities...	317	4,605,841	9	43,059
Industrial plants other than iron and steel and byproduct:				
Maine.....	25	160,526	1	2,791
Massachusetts.....	246	711,397	8	14,006
Connecticut.....	78	341,186	..	22,547
Rhode Island.....	64	127,540	11	13,574
Alabama.....	41	110,373	1	1,680
Arizona.....	9	27,857	1	746
California.....	4	228	7	80
Florida.....	13	14,905	6	7,573
Georgia.....	33	61,482	2	438
Kansas.....	53	183,661	10	12,723
Louisiana.....	5	47,701	3	14,279
Maryland.....	33	163,945	1	5,420
Mississippi.....	26	29,995	4	740
Missouri.....	80	399,022	4	9,161
New Jersey.....	93	652,957	3	25,874
Oregon.....	7	402	1	26
Texas.....	40	92,875	8	11,861
Washington.....	12	39,720	1	2
Other States.....	1,485	9,559,563	..	.....
Total industrial plants...	2,347	12,725,335	69	143,521
Grand total — electric utilities and general industrials.....	2,664	17,331,176	78	186,580

(a) The 317 electric plants reporting represented about 50 per cent of the total consumption of electric public utilities. The 2,347 industrials reporting represented about 37 per cent of the total consumption of the general industrials (excluding steel and byproduct coke plants). The consumption figures given covered the quarter from January 1 to March 31, 1920.

Morrow Disputes Calder Statement Blaming Coal Profits for Housing Shortage

J. D. A. MORROW, vice-president of the National Coal Association, attending the American Mining Congress Convention in Denver, challenged a public statement of Senator William M. Calder, chairman of the U. S. Senate Committee on Reconstruction and Production, that "Excessive profits on coal have retarded building and led to the housing shortage."

Mr. Morrow said Senator Calder's allegations regarding coal are misleading and unfair. "If the Interstate Commerce Commission had not issued orders giving special preference to coal shipments over other commodities we would be facing a catastrophe today," he added.

Jesse F. Welborn, president of the Colorado Fuel & Iron Co., testifying at a hearing of the Senate Committee, contradicted the statement of James C. Bulger, president of the Colorado Federation of Labor, who had protested against "the outrageously high prices Denver pays for coal." Mr. Welborn said: "Laborers get \$6.65 per day, whereas five years ago they were paid \$2.05 per day. Our company receives an average net income of 17c. a ton on coal sold through our retail department in Denver, and I don't see how the general wage increases of 107 to 133 per cent can continue."

Raise British Columbia Daymen \$1.15; Minimum Wage Board Being Formed

ACCORDING to the terms of the settlement of the recent trouble in the eastern British Columbia coal fields and the mining centers of the Province of British Columbia, it is understood that the day wage men have received an additional \$1.15 per day, which is along the lines of their demand. This no doubt will mean an increase in the price of coal in these fields. In fact information has come from

authoritative quarters to the effect that both bituminous and lignite coal will advance 60c. a ton at the collieries affected.

Under amendments to the Coal Mines Regulation Act passed in 1919 the Minister of Mines of British Columbia is authorized to arrange for the appointment of a minimum wage board. The powers given this board include the definition of coal-mining districts, within which it may carry on investigations as to the wage scale paid to coal miners.

It also may carry inquiry to the point of ascertaining by means of evidence taken openly general working and living conditions among the miners. Although this provision was made by the Legislature of 1919 it did not become operative until July of this year. Since then the Minister of Mines has been engaged in the work of organizing the board. The coal-mine operators of the province have selected George Wilkinson, superintendent of the Pacific Coast Coal Mines, Ltd., as their representative, and the mine workers now are busy choosing by means of the ballot their representative. It is understood that the Minister looks forward to having the board well launched and able to commence its activities in the course of a few weeks.

Blow Up Tipple, Trestle and Drumhouse

AFTER a period of comparative order in Mingo County, W. Va., the tippie of the Thacker Mining Co. at Rawl was dynamited on Nov. 7, and the Norfolk & Western R.R. trestle over Grapevine Creek at Thacker was blown up on Nov. 11, the drumhouse of the Matta May Coal Co. at Ajax being similarly destroyed at the same time. The apparent reason for the attack on the property of the railroad was to stop the passage of coal. The demolition of the trestle may cause a suspension of traffic for several weeks.

Text of Second Amendment to Service Order No. 20

THE second amendment to Service Order 20, issued by the Interstate Commerce Commission at Washington, D. C., Monday, Nov. 15, is as follows:

It is ordered that the first paragraph of Service Order No. 20 be, and it is hereby, amended to read:

"It appearing, in the opinion of the commission that because of a shortage of open-top equipment which continues to exist upon the lines of each and all the common carriers by railroad subject to the Interstate Commerce Act within the territory east of the Mississippi River, and because of the inability of said common carriers properly and completely to serve the public in the transportation of coal, an emergency exists which requires immediate action."

It is further ordered that the proviso in said order No. 20 as amended by order entered Nov. 6, 1920, which reads:

"And provided further that the phrase 'coal cars' as used in this order shall not include or embrace gondola cars with solid (fixed) sides and solid (fixed) flat bottoms, having sides 42 inches or less in height, inside measurement, or cars equipped with racks, or cars which on June 19, 1920, had been definitely retired from service for the transportation of coal and stenciled or tagged for other service,"

be, and it is hereby, amended to read:

"And provided further that the phrase 'coal cars' as used in this order shall not include or embrace flat-bottom gondola cars, or cars equipped with racks, or cars which, on June 19, 1920, had been definitely retired from service for the transportation of coal and stenciled or tagged for other service."

It is further ordered that this order shall be effective at midnight, Nov. 16, 1920.

And it is further ordered that copies hereof be served upon the carriers upon whom Service Order No. 20 was served, and that notice hereof be given to the general public by depositing a copy of this order in the office of the secretary of the commission at Washington, D. C.

Destination and Source of Bituminous Coal Dumped at Lake Ports From Opening of Season to Oct. 31

THE distribution of the cargo coal actually handled at Lake Erie during the season of 1920 up to the end of October has not departed greatly from normal as indicated by past years. According to the Ore & Coal Exchange, of the 19,091,000 tons forwarded, 27.6 per cent went to Canada as against 21.5 per cent in 1919, and 23 per cent in 1918. Canada has thus received a larger proportion than normal of the cargo coal moving, though the total tonnage shipped to Candian destinations has been 11 per cent less than in 1918.

Of the coal forwarded to American ports the proportion going to Lake Superior has decreased slightly, while shipments to Lower River points have increased both relatively and in terms of tons.

DESTINATION OF CARGO COAL DUMPED AT LAKE ERIE PORTS FROM OPENING OF SEASON TO OCTOBER 31*

Destination	1918		1919		1920	
	Net Tons	Per Cent	Net Tons	Per Cent	Net Tons	Per Cent
American:						
Lake Superior ports.....	11,542,357	45.2	9,193,128	44.3	7,604,711	39.8
Sault Ste. Marie Pt. and River points.....	530,438	2.1	329,256	1.6	490,085	2.6
Lake Huron-Georgian Bay ports.....	392,149	1.5	291,410	1.4	187,811	1.0
Lake Michigan ports.....	6,759,202	26.3	6,104,792	29.4	4,736,839	24.8
Port Huron and Detroit River.....	403,385	1.5	309,730	1.5	768,184	4.0
Lake Erie ports.....	99,989	0.4	59,156	0.3	44,743	0.2
Total American.....	19,727,520	77.0	16,287,472	78.5	13,832,373	72.4
Canadian:						
Lake Superior ports.....	1,990,344	7.8	1,580,589	7.6	1,704,681	8.9
Sault Ste. Marie Pt. and River points.....	1,086,853	4.2	804,610	3.9	1,030,988	5.4
Lake Huron-Georgian Bay ports.....	1,070,453	4.2	728,102	3.5	838,476	4.4
Port Huron and Detroit River.....	474,657	1.8	330,273	1.6	384,668	2.0
Lake Erie ports.....	24,394	0.1	47,481	0.2	9,678	0.1
Lake Ontario and St. Lawrence River.....	1,258,098	4.9	978,309	4.7	1,289,963	6.8
Total Canadian.....	5,904,799	23.0	4,469,364	21.5	5,258,454	27.6
Grand Total.....	25,632,319	100.0	20,756,836	100.0	19,090,827	100.0

* Statistics furnished by courtesy of Ore and Coal Exchange.

BITUMINOUS COAL LOADED INTO VESSELS AT LAKE PORTS AS DUMPED BY DOCKS FOR SEASON TO OCT. 31

Ports	Railroads	1920			1919			1918		
		Cargo	Fuel	Total	Cargo	Fuel	Total	Cargo	Fuel	Total
Toledo	Hocking Valley.....	3,344,832	73,820	3,418,652	3,939,454	111,006	4,050,460	4,462,754	127,396	4,590,150
	Toledo & Ohio Central.....	1,508,792	56,183	1,564,975	1,158,862	33,925	1,192,787	1,951,061	50,883	2,001,944
	Baltimore & Ohio.....	1,337,880	38,948	1,376,828	2,101,187	50,642	2,151,829	2,767,235	58,731	2,825,966
Sandusky	Pennsylvania.....	1,418,845	21,775	1,440,618	1,253,718	33,382	1,287,100	2,210,663	54,487	2,265,150
Huron	Wheeling & Lake Erie.....	1,641,441	84,893	1,726,334	1,400,981	50,170	1,451,151	1,928,725	68,953	1,997,678
Lorain	Baltimore & Ohio.....	2,735,633	171,290	2,906,923	2,632,866	143,647	2,776,513	2,954,978	82,781	3,037,759
Cleveland	Pennsylvania.....	1,054,953	151,469	1,206,422	2,190,614	235,336	2,425,950	2,304,109	263,598	2,567,707
Fairport	Erie.....	364,048	17,486	381,534	305,977	9,904	315,881	618,014	20,473	638,487
	Baltimore & Ohio.....	.....	.....	.....	16,692	12,954	29,646	234,043	41,142	275,185
	New York Central.....	1,351,849	246,548	1,598,397	1,625,130	143,138	1,768,268	1,811,092	193,118	2,004,210
Ashtabula	Pennsylvania.....	1,662,618	83,858	1,746,476	1,934,022	98,285	2,032,307	1,338,876	76,315	1,415,191
Conneaut	Bessemer & Lake Erie.....	2,105,250	35,516	2,140,766	1,343,888	9,683	1,353,571	2,063,874	30,187	2,094,061
	Pennsylvania—West.....	228,731	21,730	250,461	690,144	41,835	731,979	618,952	34,731	653,683
Erie	Pennsylvania—East.....	335,957	68,672	404,629	163,301	13,181	176,482	428,943	14,802	443,745
Total.....		19,090,827	1,072,188	20,163,015	20,756,836	987,088	21,743,924	25,633,319	1,117,597	26,750,916

Anthracite Operators Are Speeding Up Production; Adequate Supply Expected

PRODUCTION of anthracite is now going forward at a normal rate and has been doing so since operations were resumed following the "vacation" strike of the mine workers last September. Every effort is being made to correct any inequalities in distribution which may have arisen as a result of the railroad strikes of last spring and the embargoes which followed, and unless other complications which are not foreseen should occur the operators feel confident that deficiencies will be made up and that no serious inconvenience will be experienced this winter by domestic consumers of anthracite in the territory dependent upon that fuel.

Even with the untoward conditions which the industry has faced this year, beginning with the switchmen's strike and including the loss of output due to the "vacation" in September, the shipments for the first six months of this coal year, that is, from April 1 to Sept. 30, have been approximately 33,000,000 tons, as compared with 34,440,000 tons in the corresponding period last year. The net decrease this year, therefore, is not more than 1,500,000 tons, and of course part of this decrease is in steam sizes not suitable for household use. Prompt attention is being given to all applications for relief where it is apparent that an emergency exists and immediate action is required.

RESPONSIBLE DEALERS CONDEMN EXORBITANT PRICES

The responsible operators and distributors who supply 95 per cent of the total tonnage of anthracite have deprecated and do deprecate the action of unscrupulous dealers who have taken advantage of the present situation to exact excessive and unwarranted prices. Their action has paved the way for placing on the consumer excessive prices for coal that left the mine at reasonable and stabilized prices.

The responsible operators and distributors have felt that a duty to the public as well as to their employees and their stockholders rests upon them; they have maintained their standards of preparation and have advanced their prices only as justified by the increased cost of production. Their books are and have been open at all times to the examination of all authorized government agencies, state or federal, and they are now, by united action, co-operating with the Department of Justice in the effort to correct abuses that have crept into the trade and that reflect discredit upon the industry as a whole.

The Fair Practice Committee of the anthracite operators held its first meeting Nov. 16 in Philadelphia, with Percy C. Madeira, president of Madeira, Hill & Co., as chairman. W. J. Thompson, secretary of the Anthracite Operators' Association, was named secretary, and the committee immediately began work on a program for the elimination of undue profits to the producer and wholesaler where such exist.

It was the decision of the committee that the resolutions adopted by the anthracite operators mean that where coal is not sold direct by the producer to the retailer there shall be but one reasonable charge added to the cost. This means the elimination of any resales which might tend to increase the price asked of the retailer or consumer.

OPERATORS SUMMONED TO FACE COMMITTEE

The names of a number of operators alleged to be selling anthracite at high prices were laid before the committee, and these operators were notified to appear before the committee which, under the resolutions adopted for the guidance of the trade, will take immediate steps to determine the facts. So far as actual distribution is concerned means were discussed for increasing the current supplies of anthracite in those parts of the East where shortages are reported, the actual distribution in any city to be handled locally by co-operative committees similar to that now working in New York.

"Emergency coal" is being supplied in New York City by a fuel distribution committee of which John F. Bermingham,

president of the Delaware, Lackawanna & Western Coal Co., is chairman. Twenty coal yards are handling the coal, which is sold in 100-lb. lots at 75c. The work of taking care of this coal after its arrival in this market is in charge of a committee headed by Arthur F. Rice, commissioner of the Coal Merchants' Association of New York.

Anthracite Fair-Price Committee at Work

APPPOINTMENTS to the fair-price committee of anthracite operators, authorized at a recent meeting of producers, have been announced by S. D. Warriner, chairman of the general committee, and the new fair price body began its work at once by conferring on Wednesday, Nov. 17, with E. Lowry Humes, special assistant to the Attorney General of the United States, in Philadelphia.

Members of the price committee are E. E. Loomis, president, Lehigh Valley Coal Co., New York; J. B. Kerr, president, Scranton Coal Co., New York; P. C. Madeira, president, Madeira, Hill & Co., Philadelphia; John Markle, president, G. B. Markle Co., Jeddo; James S. McNulty, Eastport Coal Co., Scranton; A. C. Dodson, president, Weston Dodson & Co., Inc., Bethlehem, and A. S. Learoyd, assistant to the president, Lehigh Coal & Navigation Co., Philadelphia.

The following resolutions have been adopted as a basis of the working arrangement with the Department of Justice:

(1) That producers refuse to sell to brokers or wholesalers who have no established business and clientele, to the end that outlaw buying and consequent fictitious and artificial prices cannot be created by persons not interested in the business.

(2) That no sales of domestic sizes be made to wholesalers or brokers in the absence of an agreement that the coal will not be sold to other wholesalers or jobbers in the same market, to the end that unnecessary middlemen and their accompanying profit may not increase the price of coal to the consumer.

(3) That the local requirements for domestic use in the producing districts be provided and protected.

(4) That the fair-price committee shall advise the Department of Justice what are considered by it to be fair, stable prices for the various domestic sizes of anthracite coal, and what is considered by it to be a fair and reasonable profit per ton to govern prices exceeding the fair and stable prices. Where prices are charged by operators which are higher than those indicated by the committee, such operators should upon request of the fair-price committee file with the committee the production costs, books and other data pertaining to investment, etc., necessary to substantiate them with the committee and with the Department of Justice. These costs plus the fair and reasonable profit as above indicated can be the only justification for prices charged in excess of the fair, stabilized prices indicated by the committee.

(5) It is realized that fair distribution is closely identified with fair prices in accomplishing the general results which the Department of Justice seeks. Each operator pledges himself to an equitable distribution of his product based on the average of the last three years to the communities dependent upon his coal, so that the domestic needs of such communities may be taken care of. Where coal is sold through a wholesaler the producer should see that it is distributed to such communities as in the past have been dependent upon that producer's coal, so that such communities may continue to get such tonnage as a part of their necessary domestic supply.

(6) That the independent operators present, individually and collectively, pledge their full support to the Department of Justice in making these resolutions effective.

News from the Capital

By Paul Wooton



U. S. State Department May Protest Seizure Of American-Owned Mines in Mexico

THE State Department is considering the reported action of the Mexican government in seizing coal mines owned by American, French and British companies in Coahuila, Mexico, with a view of protesting against confiscation of the property. Word from the American Embassy at Mexico City to the effect that the Mexican Government did not contemplate confiscation of the property caused the department to withhold a formal diplomatic protest. It was explained by Mexico that temporary operation by the Government of the mines in the interest of the country was within its constitutional right and would not jeopardize title rights, the Government's action being reported to have been taken to continue operation of the mines pending adjustment of a strike.

Tidewater Movement of Coal for October Establishes a New Record

TIDEWATER shipments continued in volume during the month of October, and a new record of 5,736,000 net tons dumped was established. The increase went to meet the foreign demand for coal. While shipments to New England decreased 269,000 net tons, and the tonnage for other purposes—bunker, inside capes, and other tonnage—decreased 21,000 tons, exports from the five north Atlantic ports increased 579,000 net tons to the unprecedented record of 2,911,000 net tons for the month. This figure, it should be noted, includes no coal exported by rail. This is at the rate of 35,000,000 net tons sea-borne coal per year.

TIDEWATER BITUMINOUS COAL SHIPMENTS FOR OCTOBER, 1920 ^a
(In Net Tons)

Destination	New York	Philadelphia	Baltimore	Hampton Roads	Charleston	Totals
Coastwise to New England.....	295,000	65,000	112,000	267,000	.....	839,000
Exports.....	9,000	529,000	800,000	1,516,000	57,000	2,911,000
Bunker.....	405,000	58,000	84,000	373,000	8,000	928,000
Inside capes.....	.....	182,000	111,000	28,000	.....	321,000
Other tonnage.....	672,000	3,000	8,000	49,000	5,000	737,000
Totals.....	1,381,000	837,000	1,115,000	2,333,000	70,000	5,736,000

(a) As reported by the Tidewater Bituminous Coal Statistical Bureau.

Coal Consumed by Public Utilities Is Constant from Month to Month

COAL consumed and power produced in public utility plants in the United States in August are reported by the Geological Survey. According to the figures collected by this bureau from about 3,000 power plants engaged in public service, including central stations, electric railways and certain other plants which contribute to the public supply 3,010,173 net tons of coal were consumed in August together with 1,090,883 barrels of fuel oil and 2,704,309 thousand cubic feet of natural gas. Approximately 2,300,000 kw.-hr. were produced from fuel, and 1,410,831,000 kw.-hr. were produced by water power. These figures indicate a small increase over July on all items except the water power developed.

Compared with slightly over 3,000,000 net tons of coal

consumed in August by these 3,000 plants, which represent 90 per cent of the installed capacity of the United States, there was consumed 10,108,000 tons of coal in the first quarter of the year, or an average of 3,300,000 tons per month, in the winter months; 2,925,000 in April; 2,833,000 in May; 2,858,000 in June and 2,946,000 in July.

According to the Geological Survey the average daily production of electricity from all sources of power was slightly greater than in May, June and July of this year, about equal to April and February, but below January and March. Production of power by these plants this year has each month been greater than in the corresponding month of last year by from 7 to 20 per cent.

Open-Top Car Situation Easier; Continued Observance of Service Orders Advised

A SUMMARY of general conditions as of Nov. 15 by the Car Service Division of the American Railway Association shows that the percentage of freight cars on line to ownership as of Nov. 1, 1920, was 96.8, as compared with 100 on Nov. 1, 1919. The supply of box cars for grain loading has not met demands, particularly in the Northwest, although there is a supply throughout the country, generally speaking, sufficient for ordinary loading.

The necessity of exercising care in keeping ventilated boxcars moving to home territory is emphasized. Automotive cars should continue to be loaded to automobile manufacturing territory, because there are still some instances of shortages in spite of the lessened demand. Stock cars should be moved to owning lines and refrigerator cars should be promptly released and moved to loading territory, as the demand continues in practically all sections.

Owing to election day, religious holidays, Armistice Day and Thanksgiving, the production of coal this month is expected to fall as low as 11,500,000 tons per week, and while the open-top car situation is easing up necessity still exists for conscientious observance of Interstate Commerce Commission service orders.

C. E. DOBBIN has completed a geological study of the coal fields in southeastern Montana. He was assisted by W. W. Ruby.

PLANS FOR THE next international mine-rescue and first-aid meet already are being considered. The consensus of opinion seems to be that one of these meets should be held each year in the future. Washington, D. C., is being given serious consideration as the point at which the next meet may be held. Since the East has a very hazy idea of the nature of these contests, it is believed that the selection of an Eastern point would result in considerable public education as to the value of these assemblages.

A COMMITTEE OF THE Citizens' Association of the District of Columbia, after investigation of the local coal-trade situation, has absolved coal dealers in the national capital of profiteering. Some time ago the association appointed a committee to consider coal prices, and at its meeting Nov. 13 received and endorsed a report presented by Jesse C. Suter which found that "there is little if any profiteering" on the part of local coal dealers.

Internal Revenue Bureau Announces Ruling on Depletion

A RULING on allowances for depletion in case of discovery subsequent to March 1, 1913 (T. D. 3089), announced by the Internal Revenue Bureau is as follows:

"The deduction for depletion in the case of mines, oil and gas wells, as the result of discovery on or after March 1, 1913, is allowed only to the party or parties in possession at the time of discovery, and not to subsequent purchasers.

"The value which may be set up in the case of discovery of mines, oil and gas wells, pursuant to the second proviso of Section 234 (a) (9), Revenue Act of 1918, to be depleted in accordance with such reasonable rules and regulations as the Commissioner of Internal Revenue and the Secretary of the Treasury may prescribe according to the peculiar conditions in each case is, in the case of the lease, to be equitably apportioned between the lessor and the lessee."

Appeal to Retailers for Co-operation

GENERAL notice has been sent out by the Governmental Relations Committee of the National Retail Coal Merchants' Association calling attention to the statements of Senators Calder and Edge, in which Government regulation of coal is threatened. The notice says that "the possibility of drastic action is so great if the consumers' rights are not properly respected that it is necessary for us to again warn every individual member of this association that the strictest compliance with our established policy is imperative. It is to be hoped that the coal industry as a whole will overcome any conditions which might ultimately bring about Government control, but it should be clearly understood that the solution of the present situation is in the hands of each and every man connected with the industry."

No Government Action on Profiteering in Southern West Virginia Till January

IT HAS not so far been disclosed just what the intention of the Government is as to the indictments pending against the southern West Virginia operators aside from the statement made by District Attorney Kelly during the Huntington term in October that if operators conformed to what the Department of Justice believed to be fair practices there would be no effort at further prosecution of even those under indictment. Shortly after the election, however, District Attorney Kelly went to Pittsburgh, where he held a conference with E. Lowry Hume, in charge of Lever Act prosecutions, the result of which is not known.

Up until Nov. 10 there had been no "fair-practices" committees formed nor did it seem likely that there would be committees of that kind appointed in the southern part of the state, not only because prices were declining so rapidly but also because, according to the statement made by some operators, the Department of Justice, through its duly constituted representatives was lending little encouragement to the organization of fair-practices committees.

Postponement of all cases on the docket for the term of Federal Court for the southern district of West Virginia until some time in January makes it certain that no further action can or will be taken at the September term of court at Huntington on the indictments returned against about forty operators and agencies for alleged profiteering under the Lever Act. It is considered highly probable that in the meantime the U. S. Supreme Court will render a decision as to the constitutionality of the Lever law.

THE DEPARTMENT OF LABOR reports the settlement of a strike of mine workers in the western Kentucky coal fields. The strike was over wages and affected 5,000 miners.

THE BUREAU OF MINES soon will go the British one better by producing an oxygen breathing apparatus which weighs less than 29 pounds. The Bureau of Mines has been work-

ing at its Pittsburgh laboratory ever since the Gibbs apparatus was put on the market in efforts to improve that apparatus and to reduce its weight. This work has been done under the immediate direction of George S. McCaa, one of the bureau's coal mining and mechanical engineers. It is understood that Mr. McCaa has developed an apparatus which will be known as the American Oxygen Breathing Apparatus. It is said to possess a number of advantages over present standard apparatus and will be lighter than the recently developed British apparatus.

COMPLAINT HAVING BEEN MADE in some quarters that shipments of anthracite to Baltimore this year have been below requirements, the following figures on Baltimore shipments are submitted from the files of the Anthracite Bureau of Information:

	GROSS TONS
Six months of the basic coal year, 1916-17.....	318,893
Actual shipments, first half, 1918-1919.....	354,549
Actual shipments, first half, 1919-1920.....	378,552
Actual shipments, first half, current coal year.....	298,913

THE FIRST CARGO of Pennsylvania anthracite destined for Palestine was shipped out of Philadelphia Nov. 13 on the bark *Carioca*. It will be landed at the port of Beirut, and thence the 1,200 tons will be taken by camel caravan to various points in the Holy Land. Fuel is reported as being unusually scarce in the Levant, which in normal times derived its coal from Germany.

THE NORFOLK & WESTERN RAILROAD Co. has asked the Interstate Commerce Commission for authority to lease and operate four railroads in Pike County, Kentucky, which connect with the road's main line in West Virginia by bridges across the Tug River. The principal commodity moving over these four lines is coal, the road operating them as feeder lines during Federal control.

COAL DUMPED INTO vessels at Port Richmond piers of the Philadelphia & Reading during October aggregated 529,213 tons, the greatest figure ever reached and comparing with a total of 395,868 tons in October, 1919. Last month's tonnage was divided into 428,241 tons of bituminous and 100,972 tons of anthracite.

THE JOINT CONFERENCE of operators and representatives of the anthracite mine workers to adjust any inequalities which may be found in the present wage agreement, signed Sept. 2, was in session in Philadelphia Monday and Tuesday, Nov. 8 and 9, and on Monday, Nov. 15. No announcement of the result of the meetings has been made.

THE NEXT ANNUAL questionnaire to be sent out by the U. S. Geological Survey, in addition to the regular questions concerning production, labor, etc., will contain questions concerning methods of mining. The new questionnaire also will ask as to the percentage of extraction obtained. In England more than 90 per cent of the coal is recovered. It is believed that there are large areas in the United States wherein the extraction does not exceed 50 per cent. It is believed that accurate information in this connection will be of value to the industry.

MUNICIPAL AUTHORITIES of New York City have requested the I. C. C. to issue a priority order on anthracite coal to meet an acute shortage of coal in the metropolis. The commission has taken the request under advisement.

ACCORDING TO INFORMATION obtained at the British Embassy at Washington American ships need no longer to take aboard at home ports sufficient coal to make the round trip to England, because, as a result of the settlement of the English coal strike the restrictions imposed on the supply of bunker coal at British ports have been removed.

THE BUREAU OF MINES plans to investigate oil-burning devices which are being introduced into homes for heating purposes.

Railroads Remiss in Attention to Coal Traffic; Correct Cost Data Needed

IN ADDITION to drawing up conclusions as to the steps necessary to the stabilization of the bituminous coal-mining industry the Stabilization Committee of the American Institute of Mining and Metallurgical Engineers at its meeting in Washington Saturday, Nov. 20, discussed several of the current problems of the industry. Those in attendance were Edwin Ludlow, who presided; Bradley Stoughton, Percy E. Barbour, A. H. Holbrook, W. S. Barstow, George Otis Smith, George S. Rice, F. G. Tryon, Eugene McAuliffe, J. H. Allport, R. S. Norris, T. T. Reed and Erskine Ramsay.

The attention of the committee was called to the increase in absenteeism at mines in many of the districts. One of the members of the committee expressed the opinion that this is being done as part of a systematic plan to hold down earnings. Attention was called to the fact, however, that Mr. Hoover is at present negotiating with officials of the American Federation of Labor in an effort to devise means for eliminating the tendency of labor to retard production.

The committee deplored the lack of attention given the coal traffic by most of the higher railroad officials. In normal times, it was pointed out, the closest attention was given to the efficient handling of grain, manufactured articles and certain other commodities, but coal traffic received little special attention. Because of inability to obtain service from railroads, many private enterprises have had to undergo great expense to supplement the service of the railroads. A notable case of this kind was cited in the expenditure of \$32,000,000 by the United States Steel Corporation to insure adequate transportation facilities for its plants.

The increasing use of private cars in the transportation of coal also was discussed. It was pointed out that the public is certain to object to the monopolization of any considerable portion of the facilities of a common carrier by private equipment.

The suggestion had been made that the committee should do something to acquaint Senators Calder and Edge with the disadvantageous features of nationalization of coal mines. It was the sense of the meeting, however, that since the operators had made no such suggestion to the committee it might be gratuitous for the committee at this time to make any observations in that connection. It was decided, however, that a copy of the conclusions as to stabilization should be sent to Senator Calder's Committee on Reconstruction and Production and to Senator Frelinghuysen, the chairman of a sub-committee of the Interstate Commerce Committee of the Senate, who is expected to enter upon an active continuance of his investigation of the legislative needs pertaining to coal. In this connection it is brought out that the American Institute of Mining Engineers, as such, may have no part in legislation, but it seemed to be the impression that the Committee on Stabilization is entirely within its authority in acquainting Congress with its conclusions in regard to matters of public concern.

During the course of the meeting Mr. Ludlow read the following letter from T. T. Brewster:

I am advised by your letter of the 9th inst. that there will be a meeting of the Committee on Stabilization of the coal industry at Washington on the 20th, to discuss the question of stabilization of the coal industry at this rather critical time.

There is nothing to do at this time but to provide transportation. With adequate transportation, the supply of coal will become abundant and the opportunity for speculation destroyed.

Next spring, when the industry will be confronted with the difficulty of finding a market for the coal it can produce, a period of demoralization and instability will ensue, which will have to be endured because of the existence of the Sherman law. If it were not for the Sherman law, the coal industry of this country could be stabilized, public property protected, and the interest of labor and the proprietors properly conserved. But so long as the Sherman law exists, or until such time as we have some way of regulating trade agreements, instability will be the normal condition of the coal business.

Reverting again to the immediate present, doctrinaires and practical men should appreciate that the short factor in the coal industry for the past three years has been transportation, and that the effect of this short factor has from time to time been aggravated by miners' strikes.

One of those in attendance at the committee hearing suggested that statistics, along the line of those collected by the Federal Trade Commission, on the cost of coal production, are and should be compiled. It is correct, and not fake, data, he said, that is needed. It was asserted that the early reports made by the Federal Trade Commission were distorted in the zeal to obtain bases for certain conclusions.

Edge Wants Government Intervention, Not Nationalization, in Coal Industry

INTervention by the Government, rather than the nationalization of the coal industry, is the desire of Senator Edge, of New Jersey. The announcement made by the Senate Committee on Reconstruction and Production caused a general assumption that Senator Edge is willing to see the coal mines nationalized, if the industry itself does not clean house before Dec. 6. To correct any misunderstanding of this point, a formal statement was made public at Senator Edge's office Nov. 20. The statement follows:

Of the innumerable national evils bred by the world war, probably none, basically and fundamentally, has been more harmful than the prevailing forgetfulness and even contradiction of the incontrovertible fact that "the Government" of the United States is the people of the United States, or the people are "the Government," as one may choose to put it. Throughout the Great War many Government officials and other persons cultivated a keen distinction between "the Government" and "the people." In the floating of Liberty and Victory loans and in other activities "the people" were urged to support "the Government," as distinguished from the people themselves, and that false distinction has been emphasized and encouraged by administration officials with such success that the people now must be reminded and re-taught that they are "the Government."

For instance, in the period of the war when the Government assumed management of the railroads and lost millions of dollars a month in their operation, advocates of government ownership, apostles of the Plumb plan and even administration officials cheerfully chirped, "Oh, the Government can pay those losses." And "the Government" did pay those losses—but, to such an intimate degree are the people "the Government" that the administration found it necessary to tax even the little children of the land on their ice cream and toys and candy to erase the red-ink entries in "the Government's" railroad balance sheets.

Theoretically, government ownership of any business, even essentially private in its nature, may sound attractive to some persons, but in practice it is economically and politically impractical and harmful. The U. S. Government never was designed to conduct any business; it was framed to exercise purely governmental functions. It was not intended "to make money," and when it attempts "to make money" it invariably loses money. The "nationalization" of any industry, using the interpretation that this means turning an industry over to the workers to run on a co-operative plan for their own benefit, without regard for the rights of the original investors, never, of course, can appeal for a moment to any man or woman of sane and sound economic and political thought. Nor is even temporary Government control or intervention to be invoked except in case of dire necessity of the people.

Yet occasions well may arise when the Government—that is, the people—must intervene in the conduct of some business, for their own protection, and in their own protection, moreover, is involved the true protection of the very business involved. If the people suffer, that business is bound to suffer, also.

For instance, in the recent and prevailing high prices and shortage of coal, both bituminous and anthracite, a condition has arisen in that industry which, unless soon corrected, will in my judgment compel the people to intervene. Who is to blame for these high prices—these apparently unreasonable and unjustified prices—must be determined, and those to blame must be brought to reason, even if it be necessary for the people, through

their own agency in "Government," to take steps toward that end. Apparently, the various elements engaged in the coal industry are unable to place this blame where it belongs. So much time, energy and ingenuity are expended in the merry sport of "passing the buck" that the man on the sidelines is inclined to wonder how the industry finds time to provide coal.

"I'm not to blame," says the miner; "It's the operator." Then, "Not guilty" says the operator; "It's the middleman," and he in turn blames the railroads for car shortage and the gladsome game of "Here we go round the mulberry bush" continues with enthusiastic cheer. But, with each of these groups accusing the other, the people are moved to wonder whether, after all, each one of them is not somewhat to blame, and whether all may not be involved in the boosting of prices.

At all events, the people have been suffering and are suffering from high prices and short supplies. The average American citizen is the most patient mortal of all the peoples of the earth, but even his patience has a limit. The cold fact is that the people now look on the coal industry as a private oppressor of the public, and when the American people are driven to this extremity of view their alleged oppressor may do well to pause and ponder. As I said, when the people suffer, the business which causes that suffering is bound to suffer also.

When recently I spoke of possible "Government intervention" to remedy the apparent evils in the coal industry, the ogre of bureaucratic intervention arose to plague some folk at interest. So dim is the recollection in these days that the people are "the Government" that such folks saw visions only of some autocratic agency despotically taking possession of their business and "meddling in their affairs." The truth would be that the people themselves had rebelled against oppression and had instructed their chosen representatives in the legislative and executive departments to act for them in relieving such oppression.

The situation is desperate. In my own state, New Jersey, coal is unobtainable in many sections, and where obtainable, may be purchased only at sky-high prices. Identical reports come from virtually every state in the Union. Who is to blame for this situation? If the component groups of the coal industry cannot ascertain, then the people, through their chosen representatives, must do so. If the coal industry will not, or cannot, immediately remedy conditions, the people through their chosen representatives must and will do so.

Sound business men and the average citizen will hope that such intervention may be only temporary and even of short duration, and that the Government, which is the people, soon may be relieved of the task of directing an industry of a private nature. But, in their extremity of suffering, their experience of Government management of the railroads is nearly forgotten and the possibility of Government control of coal does not appal them. For the people have been accustomed to seeing the Government, under the present administration, intrude into numerous lines of private business. They have seen the Government engaged in the real estate business, in hotels and boarding houses and theaters, in the wholesale and retail grocery trade, in women's hosiery handled by the War Department—in everything, from cough drops to coffins and from antiques to ziziths. They still disapprove Government ownership or control, but they may be driven to a state of willingness to try the experiment.

The people do not ask much; only reasonable prices and adequate supplies for the consumer, legitimate profits for the operators and distributors, fair wages and treatment for the miners, and reasonable dividends for the owners of the railroads over which coal is transported. No one asks more, no one asks less, than this.

Anthracite Exports from New York Expand; Bituminous Trade Shrinks

REPORTS show that 18,336 tons of anthracite coal were sent to foreign countries through the Port of New York in September of this year, notwithstanding the shortage that existed that month in this market. This is the largest tonnage shipped to foreign countries through this Port in September since the corresponding month of 1917, when 26,998 tons were exported.

The French West Indies led the list of countries with 6,284 tons. French was second with 5,278 tons to its credit and Canada received 4,150 tons. Argentina received 98 tons while 446 tons was sent to far-away Egypt.

Shipments of bituminous coal dwindled to the insignificant total of 414 tons. This is more than 6,000 tons below what was sent abroad from New York in September of last year, when 6,742 tons was shipped.

Of the total of 2,388 tons of coke sent abroad Sweden received 1,156 tons, the balance being divided among ten other countries, 165 tons going to Belgium.

American Economic Society to Get Facts Regarding the Coal Situation

IN AN effort to secure more information in regard to the coal situation, the American Economic Society is inviting a number of representatives of the coal industry to speak at its convention to be held at Atlantic City, Dec. 27 and 28. George H. Cushing has been asked to speak on the problems which have faced the wholesalers. A. G. Gutheim, of the Car Service Commission of the American Railway Association, is to present some of the transportation phases of the situation and F. G. Tryon has been asked to present some significant statistics and to explain what additional statistics are necessary to a complete understanding of current developments in the handling of coal.

C. E. Leshner, editor of *Coal Age*, will lead the discussion with a paper setting forth the broad general features of the bituminous-coal industry today.

Coal Men to Form Research Committee; Seek Data on Price and Distribution

A RESEARCH committee is to be formed by the National Coal Association, the American Wholesale Coal Association and the National Retail Coal Merchants' Association. The committee is to be composed of equal numbers of representatives from each of the three associations. The plan is to compile those data which can be secured best when the records of each organization are available.

The first work to be undertaken is the compilation of figures to show the amount of coal which moved on contract and the amount which was sold on the open market during the current coal year.

It is a generally-held belief that the amount of free coal mined during the current year is very much less than is generally supposed. It is believed that the actual figures will show that the so-called fancy prices applied to a very small percentage of the total tonnage.

In order to work out accurately this and other problems it is necessary that the records of producers, wholesalers and retailers be available to the joint committee.

Indiana Fuel Commission Cuts \$2.56 Off Retail Coal Price

PRESENT retail prices for Indiana coal in out-state cities average \$2.56 a ton less than prices prevailing prior to the price-fixing orders of the fuel and food commission, according to a report submitted to Jesse E. Eschbach, chairman of the commission, by A. L. Donaldson, engineer-examiner of the State Board of Accounts. Retail dealers now are buying Indiana coal at an average cost of \$2.30 less a ton than before state regulation went into effect, the report shows.

The investigations of Mr. Donaldson, who is making special reports for the commission, covered more than fifty retail yards in various sections of the state. Mr. Donaldson said that the yards he visited were typical of the entire state, though no investigation has been made in Indianapolis to date.

Mine prices for coal produced by approximately 125 small, unclassified wagon mines in Indiana are to be fixed by the State Special Coal and Food Commission soon and the commission has announced a public hearing for the operators on Nov. 23 at 10 a.m.

These mines heretofore have not received attention because of their small production and because of the press of more important business. Their cases will be handled as were those of the larger mines and their classifications will be fixed.

Jesse E. Eschbach, chairman of the commission, said that reports indicate coal is moving more freely into homes. He said that more than 80 per cent of the operators are complying with the orders of the commission, and that all except a few of the jobbers and retailers are obeying the law and orders of the commission.

Mining Men Discuss Standardization Plans

BY R. DAWSON HALL

FROM such a large program as the American Mining Congress set itself to consider at Denver on Nov. 15-19 everyone will naturally select that part which accords with his own needs. To me the meeting resolves itself largely into a standardization congress. This is a recent development of the activities of the organization, but an important one nevertheless. Those who have it in charge have for the most part given it much time and patient effort, and something safe and sane seems likely to spring out of it.

The first meeting of importance was held on Nov. 15 with Thomas B. Stearns in the chair. Dewey C. Bailey, Mayor of Denver, made the address of welcome to the city, and George E. Collins welcomed the delegates in the name of the Colorado Chapter of the American Mining Congress. Bulkeley Wells, the president, then read a telegram from President Wilson in which he declared that "The work of the congress in co-operation with the Federal Government with mine operators and others interested in the development and utilization of our mineral resources has been and will be of immense benefit."

WOULD REVIVE WAR FINANCE BOARD

E. P. Mathewson, of New York, made a response on behalf of the American Mining Congress, and Eugene F. Meyer, of the War Finance Board, made a plea for the extension of the board's activities, which had been suspended by the Secretary of State. Following E. F. Meyer, Clay Tallman, commissioner of the U. S. Land Office, explained the new Leasing Law, which modified the provisions of the Homestead Law of 1862 and the Mining Laws of 1866 and 1872.

Meeting again at 8 p.m., a witty address of welcome was made by Oliver H. Shoup, Governor of Colorado, whereupon Bulkeley Wells made the annual presidential address, in which he advocated a second time the incorporation of labor unions. He spoke in favor of the rights of labor to organize for protection, but he urged that contracts made by unions with employers should be enforceable by law, or, failing such enforcement, the union should be financially liable for breach of contract.

He declared that the American Mining Congress was no longer impotent from lack of funds. During the last year its returns had been \$150,000, and in consequence it had been able to afford active service for those who were members of the organization and for the mining industry in general.

In the absence of Governor Henry J. Allen, of Kansas, Frank Dumont Smith, of Hutchinson, Kan., spoke on the provisions and outcome of "The Kansas Industrial Law." In a communication Governor Allen gave Mr. Smith much credit for his part in the framing of the instrument.

IF THE EMPLOYER HAS DR. EATON'S ELOQUENCE

Dr. Charles A. Eaton, associate editor of *Leslie's Weekly*, addressed the assemblage on "The Present and Future Relations Between Capital and Labor." Dr. Eaton's remarks were of an inspirational character and no one is more able than Mr. Eaton to make an address of this kind. He said that the employer should be the leader of his men, that the men were ready for his leadership. Well, if the average employer could talk as persuasively as Dr. Eaton, Dr. Eaton is right.

The morning of the next day, Tuesday, was occupied with conferences on standardization, gold and taxation. The Standardization Conference, which covered coal-mining, met at 9:30 a.m. and held sessions all morning, Carl Scholz being in the chair, in the absence of Colonel Warren R. Roberts, of Chicago, who was unable to attend by reason of sickness. Thomas T. Brewster stated that he had no report on cost-accounting standardization as he had made a lengthy report on this subject to the National Coal Association. This report was favorably received both by coal-

mine operators and Treasury officials. He had the report with him and begged leave to submit it to the conference.

A. B. Kiser presented his report on "Underground Power Transmission." It was such a long document that he read it only in part. It draws heavily on the work of the Bureau of Mines but in two conferences, each of two hours' duration, certain changes from the bureau's bulletins' conclusions were formulated and these are embodied in the report.

FIVE HUNDRED FEET DRIVEN IN A WEEK

Carl Scholz reported on the results attained by the Committee on Mining and Loading Equipment, of which he is chairman. He said that with a cutting and loading machine he had driven 500 ft. of entry in one week, working three shifts. He believed that early development work should be done by such machinery as it materially shortens the time of opening up a new mine to maximum tonnage. James Needham, general manager, St. Paul Coal Co., of Illinois, said that he hoped some one would keep in mind the needs of the thin-coal longwall work of the northern part of his state. Since the rate of day laborers had increased \$1.50 per day he had found the cost of brushing doubled; how that was so he did not say.

Mr. Brennan, of the Stag Cañon Fuel Co., Dawson, N. M., described the work of steam shovels at the Hanna mine of the Union Pacific Coal Co., where Thew steam shovels were used, the coal being 30 to 35 ft. thick. A 22-ton steam shovel was used first and 14-ton shovels thereafter. The shovels loaded from 200 to 250 tons in eight hours. At first it was hoped that the coal could be cut and shot at night and loaded during the day. This proved an undesirable way and finally rooms were driven low to the full length, and the shovel was provided with material by shooting down the top coal, taking care not to bring down more than could be loaded before the inevitable spontaneous combustion took place.

FOUR STANDARD STEAM SHOVELS LOAD COAL

The rooms were 600 ft. long and the shovel did not leave the room till its work was done. The coal is on a 17-deg. pitch. Four shovels are in use. They are producing from 800 to 1,000 tons per day. The cost of mining by hand was 49c. per ton, the company shooting the coal and the men laying the track and doing the timbering. With the steam shovel the cost fell to from 22c. to 23c. a ton, when the cost of repairs and power was considered.

Mr. Scholz remarked that at five of his mines he had carried 2,300-volt alternating current along his roadways in an armored cable and transformed it inside the mine into a low-voltage current. Two mines were in Oklahoma, one in Illinois and two in West Virginia. In Mr. Roberts' absence Mr. Needham made the report on "Outside Coal-Handling Equipment." He said that the committee had decided that 18 in. clearance should be allowed between the sides of railroad cars and stationary objects and that 2 ft. was desirable where two tracks ran side by side. The railroads were usually quite excessively anxious for overhead clearance.

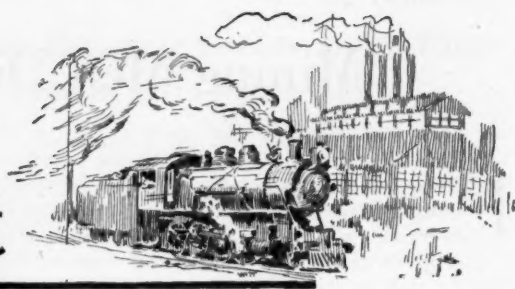
THIS RAILROAD WANTED "SOME" CLEARANCE

One railroad having fifteen to twenty miles along its tracks wanted 22 ft. from the rail to the nearest fixed object. The committee was disposed to make no recommendations, as the danger is not removed by large clearance, for if the loading booms are lowered the men will get caught in any event. It is not well to promise them a degree of safety which might be illusory should some tippable hand fail to raise the loading device till it is as much clear of the car as are the nearest of the fixed objects on the tippable.

Nor could the committee arrive at a conclusion as to the overwind clearance which should be allowed. Speed of hoisting had much to do with that provision.



Production and the Market



Weekly Review

FROM anxiety over excessively high prices the coal men have turned to fear an abnormal shrinkage in prices that may have an unwarranted effect on the contract market of next spring. For months the market has been pounded downward by those who believe that the price structure has been too high for the ultimate good of the industry, and now there are those who would conceal the truth about present low prices in an effort to bolster the market.

SPOT DEMAND DROPS; CONTRACT MOVEMENT GROWS

The present fact is that except for some retail trade spot buying has about ceased save as the coal is being urged on the buyer by the seller. With the falling off in spot demand shipments on contract have increased. There is now no difficulty in obtaining supplies of soft coal, for, save what may be but a temporary condition of continued car shortage in western Pennsylvania and eastern Ohio, all districts, even those on the Louisville & Nashville, are being well cared for by the railroads.

Reports to the Geological Survey for the week ended Nov. 6 show no general break and so far little mine operating time has been lost because of no orders. It can be anticipated that operators generally will operate their mines and if necessary hold the cars unbilled, forestalling the inevitable condition of no market, as

long as possible. This practice can be followed but a short while and more than any other factor will put prices below cost of production while doing no one any good.

In the effort to supply the demand for lump coal, screenings are in abundance throughout the West and are being disposed of with some difficulty.

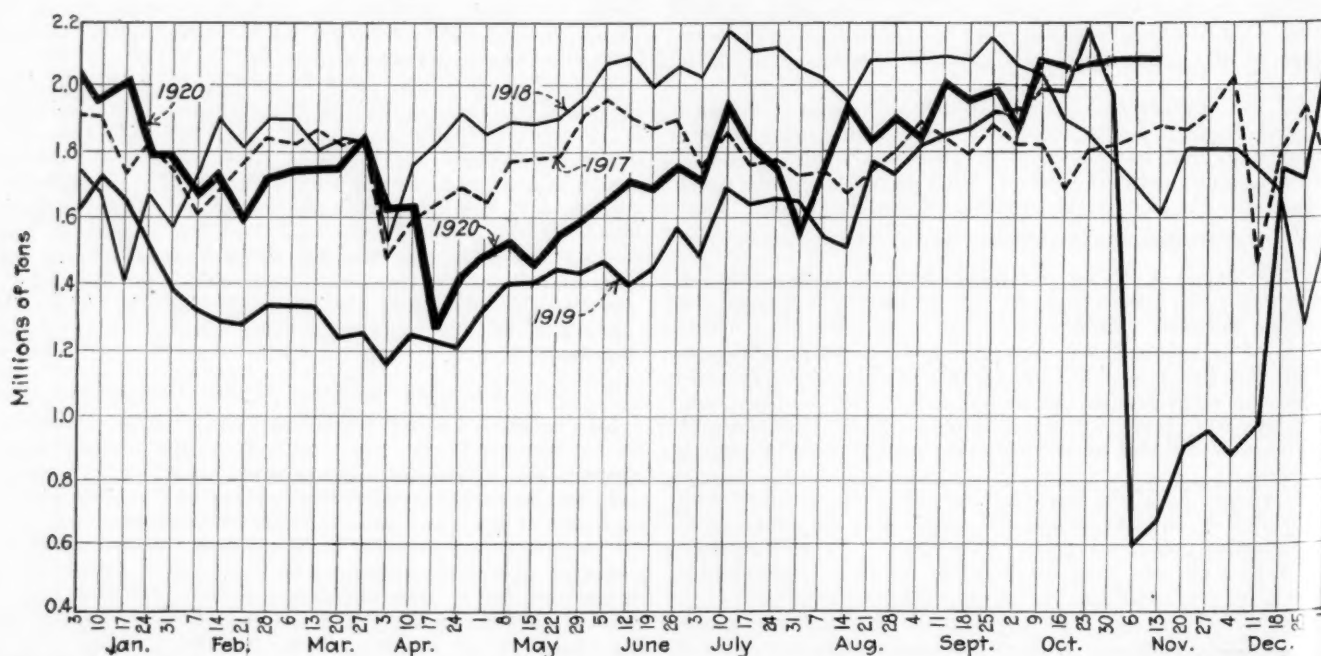
A feature of the Eastern market is the inactivity in exports; inquiries are few and but little business is being closed. A continued heavy movement on contracts is expected for some time, while the export shippers size up the situation for next year's business.

Anthracite is still in urgent demand; this market is now in the stage in which last August saw the soft-coal situation. A large part of the frenzy over anthracite shortage is unwarranted and by the first of the year this will be fully evident to all. Premium prices on independent coal are breaking under pressure from all sides.

BITUMINOUS

In spite of the interruption in operation caused by the Armistice Day celebration production during the week ended Nov. 13 continued heavy. According to the Geological Survey the week's output is estimated at 12,091,000 net tons, with a daily average of 2,120,000 tons, or an increase of 671,000 tons as compared with the preceding

Average Daily Production of Bituminous Coal *



*From weekly report of Geological Survey.

Lake Coal Dumped Season to Nov. 13

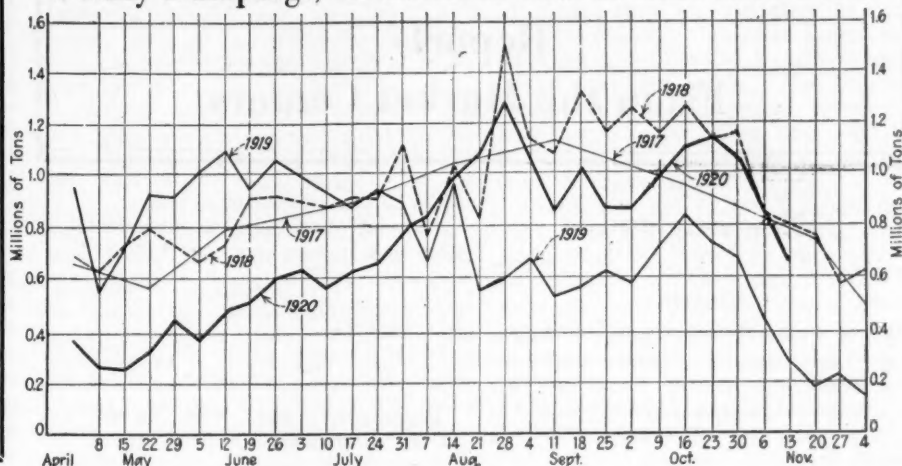
(NET TONS)

	1919	1920
Total	22,385,789	21,561,951

Week of Nov. 13, 1920

Cargo	627,157
Fuel	41,793
Total	668,950

Weekly Dumpings, Bituminous Coal at Lake Erie Ports



week. The year 1920 is now within 6,000,000 tons of production for the corresponding period of 1917. Loadings for the first two days of the week of Nov. 15-22 show a decline in output.

DECLINE CONTINUES IN TIDEWATER MOVEMENT

Tidewater movement continued to decline during the week. The Geological Survey reports show dumpings of 1,157,000 net tons, a decrease from the preceding week of 11,000 tons. New England shipments declined 64,000 tons, while exports and bunker loadings increased 30,000 and 19,000 tons respectively. Tonnage dumped at Tide was handled as follows:

Destination	New York	Philadelphia	Baltimore	Hampton Roads	Charleston	Totals
Coastwise to New England	47,000	12,000	25,000	78,000	.....	162,000
Exports	79,000	139,000	309,000	15,000	.....	542,000
Bunker	108,000	16,000	14,000	84,000	1,000	223,000
Inside Capes	.....	38,000	27,000	4,000	.....	69,000
Other tonnage	160,000	.....	.....	.....	1,000	161,000
Totals	315,000	145,000	205,000	475,000	17,000	1,157,000

All-rail New England shipments were at about the same rate as during the first week of November. Car loads forwarded through the five rail gateways numbered 4,773.

There has been no material improvement in transportation conditions, in fact the improvement in car supply recorded generally for the last seven weeks has been lost in the Pittsburgh, Pa., Panhandle, W. Va., and No. 8, Ohio, districts. This recurrence of acute car shortage in these important districts is attributed to the release of open-top equipment for use other than coal by the recent modification of Service Order No. 20. A further factor accounting for lack of cars is that with the Lake priority order off, cars are being shipped to longer haul points, so that more equipment is tied up in originating the same quantity of coal. In the Middle Appalachian region the New River and Logan fields, on the Chesapeake & Ohio, report increased car shortage. The Thacker field, on the Norfolk & Western, where a strike has been in effect for months, reports time lost because of lack of cars, which is taken to indicate that production there is rapidly reaching normal.

LABOR INCREASES; PRODUCTION LOSS DECREASES

Because of the industrial contraction, much labor is turning to the coal-mining industry for employment. A steady influx of new men as well as the return of old miners is reported on many sides. Skilled men are still in demand, of course, but loss of production from labor shortage is dwindling in a gratifying manner. Some indolence is still noticed in sections, although there is a growing tendency toward more efficient performance, evidenced by some complaint among the men about short running time. In the strike zones of both the Alabama and Thacker fields there was a satisfactory increase in tonnage produced.

Smaller operations are feeling the pinch of lowering price, as their high costs are making profitable production

a doubtful matter. Prices are somewhat lower, when compared with preceding week, although there is greater firmness shown than for some time. In some districts affected by poorer car supply, prices have even been advanced. Colder weather has greatly strengthened the domestic market, while steam users are buying on a hand-to-mouth basis, apparently feeling out the market for possible lower levels.

There is some activity in railroad fuel, and confiscations are heavy, causing no little confusion and inconvenience at the mines. Contract shipments are strong. There has been a marked slump in the export demand and coal is accumulating at Tide, resulting in tightening of embargoes and permit restrictions.

The following table shows the trend of the steam spot market in various coals:

	Nov. 1919*	May 1920	Aug. 5 1920	Oct. 28 1920	Nov. 18 1920	Nov. 25 1920†
Pittsburgh steam	\$2.30	\$4.00	\$10.00	\$8.00	\$4.00	\$5.00
Pittsburgh gas	2.30	4.50	12.00	8.50	5.50	5.75
Hooking	2.50	4.75	9.00	6.00	4.50	4.50
Franklin, Ill.	2.35	3.75	6.50	6.00	5.25	5.00
Indiana 4th Vein	2.35	3.40	7.50	6.00	3.75	4.25
Eastern Ohio, No. 8	2.35	4.50	10.50	6.00	5.00	5.00
Fairmont	2.50	6.75	13.50	10.00	5.00	4.75
Kanawha	2.60	6.75	14.00	7.50	4.75	4.75
S. E. Kentucky	3.00	6.00	10.50	6.00	6.00	6.00
Western Kentucky	2.35	3.50	5.25	6.25	5.00	4.85
Clearfield	2.95	6.25	12.00	8.25	5.25	6.00
Cambridge and Somerset	2.95	6.75	13.50	9.25	6.00	6.00
New River	2.70	.....	.....	.....	.....	.....
Pocahontas	2.35	6.50	14.00	10.75	5.25	6.00

*Government Prices.

†Advances over the previous week shown in heavy type, declines in italics.

ANTHRACITE

Observance of Armistice Day seriously affected production, which amounted to 1,753,000 net tons, practically the same as the last week in October, which contained the Mitchell Day holiday. Cumulative production for the present coal year stands at 53,873,000 net tons, as against 57,610,000 during a like period of 1919.

EMERGENCY SHIPMENTS RELIEVE EASTERN SHORTAGE

Inland West centers report a better supply of hard coal. Shortages continue at Eastern points although the situation has been somewhat relieved by emergency shipments. Prices for independent coals have declined slightly, quotations of \$12 and less having been made during the week. At this writing there are no developments on the wage question, although some announcement may result from the hearing which was held early this week.

COKE

Production increased 4,000 tons for the week ended Nov. 13, an output of 389,000 net tons being reported to the Geological Survey. The Connellsville market declined a shade; furnace \$8@8.50 and foundry \$10@10.50. Demand is light, with buyers and sellers far apart on contract figures for the first half of the new year.

Reports From the Market Centers

New England

BOSTON

Market Shows Little Change — Prices Are Less Erratic — Inferior Grades Not Wanted — Bunker Coals in Fair Demand — Hampton Roads Call Is Dull — Anthracite Shipments Still in Arrears.

Bituminous—On the whole the trade situation here continues without material change. Inquiry is only scattering. The only buying is in small lots and for transient needs. Retail dealers who either neglected to make contracts or who failed to get shipments are buying casually and those who normally take delivery by water are finding conditions much more to their liking than they could have anticipated three months ago. Large consumers for the most part are indifferent. Rigid curtailment is the rule in all kinds of manufacturing. Even the paper mills are showing signs of accumulated output.

Notwithstanding the narrow market there has been a certain stabilizing in prices. Quotations have almost settled down into grooves and more than a few operators have decided either to net what they regard as a satisfactory return or shut down. In other words, they are about to do precisely what manufacturers are doing.

While the market is glutted with many kinds of steam coal there is no great surplus of the grades most in demand for bunker and export use, at least, so far as Baltimore, Philadelphia and New York are concerned. Several agencies are behind on contract deliveries and are likely to owe coal at least for the next 30 days.

On the other hand the medium to poor grades are going hard. Few shippers are willing today to take the chance of sending high-volatiles to Tidewater on the market and orders all-rail are few and far between. Certain Fairmont coals offering at \$4 net ton at the mines are not meeting with any comprehensive business.

There has been a notable falling off in the demand for Hampton Roads coals. The piers at Newport News are dumping barely 40 per cent. The pressure from off-short buyers has gone glimmering and those agencies consider themselves fortunate who have orders enough today to take care of their credits in the Exchange.

Several have been embargoed because of accumulated coal and it will be interesting to see the effect upon prices the next fortnight. Coastwise the spot demand is practically in. Trans-Atlantic freights have receded to

\$7.75 to ports like Rotterdam.

Current quotations on bituminous at wholesale range about as follow:

	Clearfields	Cambrias and Somersets
F.o.b. mines, net tons	\$4.50 @ 5.50	\$5.00 @ 6.50
F.o.b. Phila., gross tons	7.70 @ 8.80	8.25 @ 9.90
F.o.b. New York gross tons	8.15 @ 9.25	8.70 @ 10.35

Pocahontas and New River are quoted \$9.50@\$10.50 f.o.b. vessel depending upon whether first or second grade. On cars at Providence and Boston sales are still being made \$12.75@\$13.50, these prices as well as those at Hampton Roads being for gross tons.

Anthracite—There is still much uneasiness over the shortage of domestic sizes. It is the opinion here that in cities like Boston more than 60 per cent of the season's supply has been housed. The difficulty is that while nearly two-thirds of the consumers have a seasonable supply, the other one-third have coal only for a short period. Beginning Dec. 1, shipments here are expected to improve, and the situation to get better within a reasonably short time.

Tidewater

NEW YORK

Anthracite Conditions Are Practically Unchanged — Improvement Expected Within Next Few Weeks — Quotations for Independent Coals Slightly Lower — Bituminous Prices Go Lower — Buyers Quiet.

Anthracite—Conditions are practically unchanged. Coal is needed and shipments have not increased. So far there has been no suffering but local coal men are prepared to meet any emergency that may arise.

With mines producing at a normal rate, a supply sufficient to meet all ordinary requirements is expected within the next few weeks. The West continues to absorb a heavy tonnage which to a large extent, will be distributed throughout the Eastern section when the Lake season ends.

Whether as a result of investigation or otherwise the situation so far as quotations from some individual coals are concerned, was slightly easier. As low as \$12 was heard and some operators were quoting still lower prices, provided the buyers placed an order for some steam sizes.

The clamor of the public for more coal has not caused retail dealers to rush into the market for the high-priced coals, especially when it would result in a higher price to the customer.

The mining fields continue to hold

many out-of-town buyers anxious to close contracts. Steam coals are easier both in supply and quotations. Some railroads are using heavy tonnages of buckwheat.

Quotations for buckwheat range \$4.75@\$5.75. Rice ranges \$3@\$4 and barley up to \$2 at the mines. Prices for company coals are unchanged.

Bituminous—The market is easy. Wholesale dealers complain of lack of orders and the absence of inquiries. From reports heard from salesmen it is believed that consumers are waiting for lower prices and that when they are a fact, orders will be plentiful.

Prices took a further drop during the week. There was a slight stiffening in demand but not from sources that would warrant stronger prices. The railroads have again entered the buyers' lists and it was said that at least one of the big roads was confiscating heavily.

With quotations on their present basis small operators stand a chance of selling at a loss at the present cost of production. It was pointed out that if many of these small operations were suspended the loss in production would amount to considerable.

Low quotations for anthracite steam have had some effect upon bituminous quotations. Many users of the latter have already bought some steam sizes and are using them in conjunction with soft coal.

Spot coal could be gotten at lower prices than long-time contracts could be made for early in the week, operators and shippers not being willing to take a chance on the future.

Quotations at the mines range about as follows: Pool 14, \$4.50@\$4.75; Pools 71 and 9, \$5.75@\$6.25; Pool 10, \$4.75@\$5.50 and Pool 11, \$4.50@\$4.75. Loaded boats were numerous with quotations ranging \$8@\$9.25 alongside, according to grade and quality. Pool 4 was quoted \$9.20 alongside, and Pool 10, \$9.25.

PHILADELPHIA

Cold Weather Taxes Retail Trade — Shipments Light, but Improving — Retail Prices Are Stable — Bituminous Trade Light, but Price Firmness Evident — Car Supply Unsatisfactory — Tide Business Is Moderate.

Anthracite—With seasonable weather prevailing the retail demand is exceptionally strong. However, it cannot be truthfully said that this city is in a serious shape. Often the lack of fuel has been due to reluctance of the consumer to take any but a certain size.

The chief concern of the retailers is that portion of their trade who have received only a few tons. Should the cool weather continue these small stocks will soon be exhausted and the city must receive some big shipments soon to meet the situation. All the yards are going along with the lightest kind of stocks, although there has been some little increase in shipments this week. However, the coal is moved from the yards about as rapidly as it arrives. The small stocks of pea have

about vanished and this is now one of the most wanted sizes.

Despite the demand retail prices remain unchanged and there has not been the least semblance of a desire to take advantage of the situation. Unfortunately, the dealers are much hampered in their efforts to serve the public by the propaganda being spread by a local newspaper, which has given ear to a labor agitator.

Every dealer is compelled to meet all sorts of arguments at the same time he is endeavoring to keep his customers warm. The fact that a committee of operators is acting with the Government representative as a Fair Price Committee also leads the buying public to believe that they are paying excessive prices.

Bituminous—There is very little activity, although there is a distinct feeling that prices are approaching a firmer basis. For a week, prices have held very much the same, the range being \$4.50 for ordinary coal up to \$6 for the best steam grades. Late in the week there was actually a slight advance. At this time Pool 9 is about \$6.25 at mines. Pool 10 moved up to \$5.75, and Pool 11 is sold \$5@5.25. For the ordinary coals, such as Pool 18, \$4.25 is asked, with little tonnage moved. The Fairmont coals show even more strength, Pool 34 being \$5.50.

This strengthening has been attributed to the fact that much coal is being rushed to the Lakes before navigation closes. Car supply has been anything but good recently. The allotment of empties in some districts has been so light that the men have made bitter complaint that they are not able to work sufficient time to earn a living.

Business at the piers continues moderate, with the railroads still maintaining embargoes. In the meantime the roads are in the market and are taking in a big tonnage.

There is much talk of contracting, but with the situation so badly confused both sides find it very difficult to arrive at an understanding. From an operator's standpoint \$6 still seems to be a fair contract price, while the consumer talks \$4.50 coal.

Coke—There is only a light demand, with foundry grades being quoted \$10.25, and furnace \$9.25. As these prices are close to the figures on which contracts were made last spring, there is little difficulty in getting full shipments.

BALTIMORE

Soft Coal Market Takes Stronger Tone—Car Supply Is Poor—Hard Coal Situation Badly Complicated.

Bituminous—There is undoubtedly a stronger tone to the market. During the week the car supply on the B. & O. dropped on Eastern lines as low as 41 per cent, and was generally below 60 per cent. The Western Maryland was a little better. Best coals are in strongest demand and there is a wide difference in quotations as between

grades. Pools 9 and 71, are quoted variously \$6@7 per net ton f.o.b. mines, Pool 10 is quoted \$5.50, while Pools 11 and 18 are selling low at \$4.35 @ \$4.50.

At Tide there is new evidence of strength, and quotations for future delivery are frequently somewhat above the line trade. Only about a dozen ships are now noted daily astream for coal. The export movement for the last half of the month will fall far short of that for the opening days. Another export record for loading was broken the current week when the British ship Wendland was loaded with 14,674 tons for Rotterdam at the Curtis Bay pier of the B. & O. This was 132 tons in excess of the last previous record cargo loaded Sept. 30 on the steamship Sauerland.

Anthracite—An inquiry is being made as to the shortage by the governor and the aid of the police force has been enlisted to take a house to house canvass of coal cellars. Meanwhile the Baltimore Coal Exchange has taken up the work of making a survey through its members, who are answering a questionnaire as to the amount delivered to them since April, amount ordered and not delivered and the amount they estimate needed to complete the deliveries to their customers. The Mayor of Baltimore has also started a general inquiry, and has been joined by the Baltimore Federation of Labor in a drive. There are so many cooks that the broth is being unduly stirred.

The past few days the daily receipts have been 40@60 cars over the three roads, and it is announced that this will be increased. This is now about a normal run, but is not filling the big shortage gap, although aiding greatly and about double the former daily receipts for several weeks. A special shipment of 30 cars has been made to take care of schools and fire houses without fuel here.

The usual talk of official, state or government control has of course cropped up. Meanwhile the dealers have not raised prices and are apportioning coal as best they can.

Lake

BUFFALO

Heavy Snow Increases Anthracite Demand—Supply Is Better—Bituminous Prices Still Sagging—Cars Plentiful—Demand Is Light.

Bituminous—Prices are weak and slowly declining. Several new low levels have developed this week. And the tendency is still downward. Allegheny Valley mine run is selling for \$4.75, lower than slack, on account of so little screening being done. Pittsburgh is a little stronger.

Car supply is good. The worst side of the trade is the disposition of consignees to refuse a car if they hear of a lower price and then it has to be resold at a loss. In this connection,

mention should be made of the practice of contracting coal in time of wide price fluctuation. Immense losses have been sustained by the heavy contracting of coal last spring. Not only has much of it been delivered all summer at less than \$4 a ton, mine price, but the failure in filling contracts has also created much difficulty.

Quotations are \$7 for Youghiogheny gas; \$6.50 for Pittsburgh and No. 8 lump, \$5.50 for mine run and slack; \$6 for Allegheny Valley lump, \$4.75 for mine run and \$5.25 for slack; \$9 for Cambria County smithing;

Anthracite—The situation is easing up somewhat, due to the delivery of 8,000 tons on the solicitation of the Chamber of Commerce. A good many families are poorly supplied, but that is said to be because too much has been given to early customers.

The tension will gradually ease up from this time on, though the Lake trade will continue perhaps ten days into December if the weather is not too severe. At the same time, the independent operators are sometimes demanding immense prices for their output. One jobber reports receiving a quotation of \$16, when the regular mine price was a fraction over \$8.

Lake—Shipments were heavier, though it will be impossible to reach last season's figure. The amount for the week was 144,200 net tons, of which 55,300 tons cleared for Duluth and Superior, 24,400 for Milwaukee, 22,500 for Chicago, 15,100 for Sheboygan, 9,400 for Port Arthur, 6,000 for Fort William, 6,000 for Hancock, and 5,500 tons for Marquette.

Freight rates are strong at \$1.75 to Hancock, \$1.50 to Chicago, \$1 to Marquette, 75c. to Milwaukee and Sheboygan, 60c. to Duluth, Fort William, Port Arthur.

Coke—The market is only moderately active and prices declined about on a par with bituminous. Jobbers get orders in a sort of irregular way when consumers' contracts run short. They quote 72-hour Connellsville foundry at \$10, 48-hour furnace, \$8.50 and off-grades and stock at \$7.50; domestic sizes are \$7.50 for furnace, \$10.50 for nut and \$2.75 for breeze.

CLEVELAND

Cold Weather Starts Rush for Coal—Domestic Grades Slightly Advanced, but Receipts Improve—Steam Drug on Market—Car Supply Limited.

Bituminous—A vigorous rush for domestic coal has checked the decline in some grades which has been under way for the last few weeks. No. 8 Pittsburgh advanced from \$9.50 to \$9.65 at retail. Such increases as have taken place are believed to be purely temporary, reflecting the sudden drop in temperature and some hindrance to coal movements due to lack of adequate car supplies. After the ending of the Lake season a marked change in the situation is expected to appear. Some dealers point out that winter traffic tie-

ups may rise up to keep coal receipts under normal. The attitude of miners toward their work, described as a disinclination to produce steadily and efficiently, is another retarding feature.

Against a normal figure of 576,000 tons weekly, No. 8 district mines produced only 372,000 in the week just closed, which is less than 65 per cent of normal. The car supply on the B. & O. continues most inadequate of all. The unfavorable conditions are beginning to spread to the other service in the district. The shortage is believed to have been caused, in part at least, by the withdrawal of many open-top cars from the coal trade.

Coal men believe that the bottom price will be reached after navigation closes and that it will not be lower than \$4@4.50 a ton at the mines. Steam coal is in little demand due to the industrial slackening. Prices for soft coal at mines of the No. 8 district average \$5@6.50 a ton.

Anthracite and Pocahontas—All grades of anthracite have been advanced 10c. Mine run Pocahontas, however, has fallen off 15c. as a result of better receipts. The colder weather is causing an inrush of orders and retailers are kept busy in an effort to keep up with deliveries. Only 13 cars daily of anthracite are coming into Cleveland as compared with a normal of 45 cars at this season.

Lake—An embargo has been placed on all coal for shipment after midnight Nov. 20, except in the case where special arrangements have been made for a permit from H. M. Griggs, manager of the Ore and Coal Exchange. Coal movements up the Lake have been curtailed as a result. After Nov. 24 insurance expires and the season formally closes. Retail prices of coal per net ton delivered in Cleveland follow:

Anthracite—Egg, grate and stove, \$15.10.
Pocahontas—Shoveled lump, \$11.75; mine run, \$11.10.
Domestic Bituminous—West Virginia splint, \$11.75; No. 8 Pittsburgh, \$9.65; Cannel lump, \$15.
Steam Coal—No. 6 and No. 8 slack, \$9.50; No. 6 and No. 8 mine run, \$9.65; No. 8 3-in. lump \$9.65.

MINNEAPOLIS

Some Shortage in Outlying Territory—Mild Weather Aids—Situation Now Depends on Volume of All-Rail Receipts.

Even the few days of severe weather, so far experienced develops that there are a number of small towns in the Northwest which have not been able to secure any coal. Half a dozen or more reported being wholly out of coal, though some had orders placed since March. They are not all on obscure branches as in former years, showing that delivery has not caught up completely, despite easier car situation.

It has come to be accepted that the danger of a severe coal shortage is fairly well past. This does not mean that there will be no scarcity. It is almost impossible to make the supply of soft coal available serve through the winter, despite the various ways that some saving will be effected.

Of course, if the Illinois mines should be able to furnish double their accustomed tonnage to the Northwest, and at a price lower than the dock figure, there might be some surplus of dock coal. But this is a rather unlikely contingency. In all probability, the dock supplies available will not equal the demand, and spring will find them bare and buying being diverted to any point where coal may be obtained.

For the present the trade is awaiting developments. The close of the month will determine what the stocks will be. The month is a hard one for navigation and there have been several wrecks already, which shows the uncertainties of getting heavy tonnage of coal up the Lakes during the month of November.

Rumors continue regarding the chance of lower prices. Dock men insist that there is not a possibility of dock figures going any lower during the present season. All that has moved to date has been high-priced coal. An early reduction of price at the mine could not affect the coal already delivered. On Illinois coal there is less certainty about prices. Their market is a little more given to fluctuation and change.

However, the test of the market remains for the next few weeks. When real winter is at hand, it will develop whether there is much chance of congestion and lower prices, which so far seem to be unlikely for the near future. A prolonged mild winter might even upset values through an accumulation of stocks which would depress the market. It seems early to anticipate anything of the kind. There might be a temporary slump, but it would hardly be a market condition, because it would be so temporary.

MILWAUKEE

Moderate Winter Will See Adequate Stocks—Pocahontas and Anthracite Scarce—Prices Are Firm—Lake Receipts Gain.

The shortage scare seems to have given way to a "trust to luck" attitude. Dealers and consumers are facing the winter with apparent indifference. Much will depend on weather conditions, however.

Present demands are being satisfied with ease, and the supply on hand promises to hold out until January, after which the railways must replenish fading fuel piles. Hard coal and Pocahontas are scarce, but there seems to be ample stocks of both Eastern and Western soft coal.

There has been no change in prices. Western soft coal is due for a drop, however, when present stocks, which were bought at the peak, have become exhausted. Western coal now sells for \$6.50 at the mines instead of \$8.50.

The City of Milwaukee will retail coal to the poor during the coming winter. The price will be 45c. for 50 pounds and 85c. per 100 pounds, with a limit of 300 pounds to a customer at any one time.

Lake receipts for the first half of

November aggregate 63,355 tons of anthracite and 226,509 tons of soft coal, a gain of 17,077 tons of the former and 29,990 tons of the latter over the same period last year. This reduces the shortage of hard coal by cargo since the opening of navigation to 38,979 tons and of soft coal to 943,474 tons.

Inland West

ST. LOUIS

Easier Market Conditions Prevail—Prices Continue To Decline—Supply of Cars Improves—Labor Is Quiet.

Steam still continues to lag, although at times there is a spontaneous call for screenings but the market is generally quoted \$3@3.50 on Standard, with mine run about \$4@4.25, and lump \$4@4.50 in St. Louis proper, with outside prices perhaps 50c. per ton higher.

Light shipments are going to Chicago and the North, while movement to Omaha and Western territory is better. Car supply has been about 2½@3 days a week and showed some improvement the last week. There has, however, been a decline in tonnage on account of the miners still insisting on a Saturday holiday. Very few labor troubles are noted at present. Railroad tonnage still continues good.

Similar conditions prevail in the Mt. Olive field, where working time is better and the railroad tonnage heavier.

In the Cartersville field of Williamson and Franklin County the car supply shows some improvement and general conditions are better. Operators show that they are gradually catching up on their older orders, although they are sold up for a couple of months ahead. The regular circular price of most of the operators ranges \$4.50@\$5, with the independents asking as high as \$7 on all sizes.

The local situation in St. Louis is easy, with light demand for everything, caused chiefly by the weather.

MIDWEST REVIEW

Steam Prices Soften, Domestic Fairly Firm—Rumors of Export Order—Car Supply Is Satisfactory.

Steam coal continues to soften, although various grades of good domestic are standing up very well. There is no question but that the weather has played an important part in bringing the market to more reasonable levels.

Operators are once more turning their attention to proper preparation of their coal. This matter is receiving attention because it has been forcibly called to mind by the number of cars that have been refused during the past ten days. Once more the high grade coals from Indiana and Illinois are bringing a premium in the market over the poorer grade fuels.

There is a rumor floating about to the effect that an Eastern export company has bought 300,000 tons of southern Illinois coal to be exported from New

Orleans or Pensacola, sold for the account of a European Government rather than a South American. The story goes that a few of the companies in southern Illinois became a little worried over the trend of the market and when they were approached with the proposition of exporting their coal at a very good price, they accepted without delay.

The car supply, now that there is but little demand for coal, continues to be very satisfactory. There have been no labor troubles to speak of. The men now appear to be contented and are working as often as the railroads supply cars at the mines.

Southern Illinois prepared sizes are \$5.25@\$.650; mine run, \$4.75@\$.550; screenings \$3.75@\$.425. Springfield district prepared coal, \$4.75@\$.625; mine run, \$3.25@\$.4, and screenings \$2.75@\$.325. Northern Illinois \$5.25@\$.625 for domestic; mine run, \$3.75@\$.450 and screenings \$4@\$.450. Indiana fourth vein outside the state ranges \$4.75@\$.625 for prepared; \$4@\$.450 on mine run, and \$3@\$.350 on screenings; fifth vein prepared coal is \$4.25@\$.6; mine run \$3.25@\$.375 and screenings \$2.75@\$.325.

COLUMBUS

Lower Temperature Brings Increased Domestic Demand—Steam Business Shows More Activity—Lake Trade Declines—Production at Lower Level.

The feature of the Ohio coal trade is an increased demand for domestic grades. A heavy snow storm produced a rush of orders from all dealers. The Fair Practices Committee immediately changed itself into a distribution committee and much good resulted. Retail stocks are still extremely low and many rural sections are almost without fuel. While no real suffering has been reported, energetic steps will be necessary to secure coal for all consumers.

Retail prices show a slight decline, due to slump at the mines. Hocking lump retails \$8.50@\$.950 while mine run is \$8@\$.9. Pomeroy lump is quoted \$9@\$.925 with West Virginia splints \$10@\$.1075. Pocahontas is still scarce and retails \$11.50@\$.13.

The steam trade is showing more briskness. While many large users have reserve stocks, others are running from day to day and this means a steady demand. Public utilities are fairly well supplied but are buying right along. Steam grades are selling at lower levels than for sometime and the tendency is still downward.

The Lake season shows a marked decline from the records of the previous week. This is due to the lifting of priority shipping orders and the fact that the Northwest is fairly well supplied. Indications point to a continuation of shipments up to the latter part of November. The H. V. docks at Toledo during the week ended Nov. 13 loaded 89,849 tons as compared with 175,188 the previous week; the total handled during the session is 3,642,017 tons

which is about 600,000 tons less than last season. The T. & O. C. docks during the same week loaded 48,828 tons as compared with 90,258 the previous week, making 1,683,115 tons for the season. Mine prices of the principal coals used in central Ohio are:

Hocking lump.....	\$4.50@\$.5.75
Hocking mine run.....	4.00@ 5.00
Hocking screenings.....	3.50@ 4.25
Pomeroy lump.....	4.50@ 6.00
Pomeroy mine run.....	4.00@ 5.25
Pomeroy screenings.....	3.75@ 4.50
West Virginia splints, lump.....	5.00@ 6.50
West Virginia splints, mine run.....	4.75@ 5.50
West Virginia splints, screenings.....	4.25@ 5.25
Pocahontas lump.....	6.50@ 7.50
Kentucky lump.....	5.25@ 6.50

INDIANAPOLIS

Good Call for Outside Deliveries—Price Regulations Eliminating Outside Domestic—Operators Generally Are Observing Rulings.

General disposition to produce coal ordered by the special coal commission at the price fixed has resulted in a drop of about \$2.50 a ton on an average. The action of the state commission does not appear to have eliminated the demand of buyers outside the state for Indiana coal and contracts are being made that are not hampered by the fixed price.

Steam coal is in good demand with every prospect of an even greater call as the weather becomes more severe. Railroads, public utilities and private industries have been unable to secure sufficient coal to build up reserves and attempts are being made now to this end.

Many operators feel that coal from other states for domestic consumption will decrease in popularity because of the price. Indiana coal is reaching the consumer at about \$7.50 a ton, while he is paying from four to five dollars more for coal mined outside the state. New price regulations, many operators feel, will create a demand for Indiana coal that will result in much good in future years.

Jobbers complain that there is no free coal on the market, but it is doubtful if they would handle it, were there any, for their profit is only 15c. a ton under the rulings of the commission.

Production of coal at 191 mines in Indiana during the week ending Nov. 13 is reported as 596,610 net tons as compared with 571,316 net tons at 193 mines the week preceding. These mines worked 70.09 per cent of full time. Labor trouble was responsible for 9.20 per cent of the time lost, while car shortage and mine disability accounted for 13.17 and 7.54 per cent, respectively.

DETROIT

Dull Steam Market Continues—Receipts Improve—Domestic Call Is Stronger with Cold Weather—Anthracite Shortage Is Unchanged.

Bituminous—Dullness in the demand for steam coal is partially offset by a broader inquiry for domestic stock, following the arrival of low temperature and snowfall. Though the supply of domestic is not as liberal as could be wished, it appears to be meeting local

requirements without serious difficulty.

The local trade is now enjoying both an increased supply of coal and a better quality than was being sent here before. Shipments from Ohio mines now constitute the larger proportion of the receipts, though there is an important increase in the movement from West Virginia. Shipments from Indiana and Illinois mines have been substantially reduced. Not very much smokeless has yet become available and the opinion is expressed that most of this coal is still being sent to Tidewater, where better prices are obtainable. Quotations on steam show a slight reduction, though domestic coal is holding steady. Slack from the Hocking district is offered at \$4.75; mine run at \$5.25, and lump holds around \$7.50@\$.7.75. Coal from other Ohio districts is available on about the same basis. Some mine run of the Jackson Hill class is quoted at \$4.75. West Virginia slack is quoted \$5.50, mine run is \$5.85, and good domestic lump ranges \$8.65@\$.8.85. As yet there is practically no free coal on local tracks.

Anthracite—Wintry weather has increased the demand from household consumers. Retail dealers are experiencing little improvement in supply. Shipments are small and their arrival uncertain. Having no reserve stocks, the dealers are working under a heavy handicap in the effort to supply their customers.

CINCINNATI

Rush of Domestic Orders Follows Cold Spell—Steam Demand Also Increases—No Danger of Fuel Famine.

Evidence that a large number of domestic consumers delayed ordering their winter's supply until the last moment in the hope that prices would be considerably reduced, is shown in the receipt of a large number of short-notice orders since the arrival of the cold spell.

Because of the fear of a gas famine due to the severe cold spell many steam consumers began to lay in a sufficient supply of coal to tide them over in the event of a shortage.

The extreme scarcity of smokeless and the demand for this grade continues as an outstanding feature of the market condition. Arrival by means of an artificial wave, of a fleet from West Virginia, bringing about 75,000 tons of soft coal during the week has tended in a measure to relieve the situation.

There is no decided change in the condition of the market as to price and inability to get shipments of anthracite. Wholesale dealers state that where several weeks ago it appeared as though Cincinnati would be able to obtain only 20 per cent of its normal supply of smokeless, conditions have improved somewhat and the city will receive probably 40 per cent of its usual supply. There is practically no danger of a fuel famine, for with the shipments of coal by way of the Ohio River and by rail, Cincinnati will be well taken care of,

although consumers in the rural districts will be more seriously affected.

The following prices for various grades are quoted by Cincinnati retailers:

Bituminous lump	\$9.25 @ \$10.50
Nut and slack	8.50
Mine run	8.50 @ 9.25
Smokeless lump	11.25
Mine run	10.00 @ 10.50
Anthracite chestnut and egg	15.00 @ 16.25
Coke	14.50 @ 15.00

CHICAGO

All Demands Are Weaker—Poor Preparation Causes Refusal of Railroad Fuel—Bituminous Receipts Are Larger.

The local market has probably been affected by the industrial let up and mild fall weather more than any other spot in the Middle West. There is practically no demand whatever for steam coals and but little demand for domestic, even of the better grades.

A railroad which has been buying coal very heavily on the open market has now discontinued all purchases and, in addition, has refused from 200 to 1,000 cars of coal, mostly mine run, which are now on track in Chicago. Disposition of this coal is a problem that is causing a great deal of worry to a number of jobbers, as most of it was purchased through jobbers rather than direct from the operator.

There are two stories going the rounds as to why this very large tonnage was refused. The first is to the effect that the purchaser of the coal for the railroad found almost immediately after he had made his buy that if he had waited for a few days he could have bought the coal much cheaper. He decided that the only way out was to get the price reduced and, in order to bring this about, large numbers of cars were refused on the ground of "poor preparation." The other story is that the operators have been growing very careless in their preparation. The railroad had been having a great deal of trouble on account of the poor quality of coal received, and considered that the present was a good time to call a halt and make operators toe the mark in regard to preparation. One operator admitted that his coal had been poorly prepared but said he was unable to correct it, as a complaint to his mine labor by means of fines, etc., would have lost all his men, who doubtless would have left his property and gone to the mines of some other operator who was not so particular about the preparation of his coal.

As a matter of fact it appears to some that the refusal of all this coal by the railroad referred to before is bound to have a very good effect on the trade, as it will force operators to pay some attention to the preparation of their coals, whether they wish to or not.

Eastern coals are coming into Chicago markets in fairly liberal quantities. The price on Pocahontas and New River mine run varies \$6.50 @ \$7.50 per ton f.o.b. mines. The cost of West Virginia splints and Kentucky block ranges \$6 @ \$8. Shipments of anthracite were not so satisfactory the past week.

South

LOUISVILLE

Heavy Demand for Domestic, but Little Available—Steam Prices Are Down—Domestic Quotations Are High.

Cold weather is resulting in a heavy local demand for domestic, with consumers accepting any and all sizes, after having waited for months in hopes of securing better grades of lump. Retailers are taking numerous small orders, there not being much heavy buying of sizeable lots, as consumers are looking for lower prices.

Prices of domestic sizes from both eastern and western Kentucky fields continue high, and production of eastern Kentucky block is light, as very few operators have been screening. However, prospects are that many screens will be put back in operation, as steam coal is beginning to drag, and will be in a bad slump shortly, when Lake demand is closed, and with the steel mills, auto plants, textile mills, and other consumers still further reducing buying.

West Virginia mine run has been quoted \$4.50 @ \$5, with some reports of \$4.75 coal in fair quantities. This is breaking down the price of eastern Kentucky coal.

Eastern Kentucky operators are asking \$5.50 @ \$6 for mine run, although some coal has been quoted under \$5. Lump is quoted as high as \$9.50 @ \$10.

The backbone of high prices has been broken. Unless operators take better care of domestic demand by producing prepared sizes the bottom will drop out of the steam market shortly, in the opinion of some, who say that industrials cannot take all offerings on the present heavy production basis. If the present margin between lump and mine run continues it is anticipated that retailers may install their own screening equipment.

Retailers cannot understand the attitude of producers in refusing to make prepared sizes at a time when steam demand is well taken care of and when the heavy demand is from consumers of prepared sizes. The present difference in market valuations alone would justify screening, even if a partly filled car or two is left on track overnight.

Some of the new operations are now getting their development-stage car supply, which is running good, and some local jobbers have arranged to handle such coal on a profitable basis to both parties.

BIRMINGHAM

Prices Weaken Further—Steam Market Continues Easy—Domestic Demand Is Good—Production Ample for All Needs—Labor Becoming Plentiful—Car Supply Is Adequate.

Industrial depression which has caused many industries to go on short time or close down entirely, has been keenly felt in this market. The demand for steam coal is rather weak, though

a slight improvement has been reported over last week.

Steam consumers are remaining out of the market to a large extent, due to stocks on hand and light requirements, and buyers in the spot market take on the better grades at prices considerably under what was being paid several weeks ago for the most inferior product. The medium and lower grades are being moved with some difficulty and delay. Cahaba and Black Creek mine run is quoted \$5.50 @ \$6, Carbon Hill grades \$4 @ \$4.50, the latter prices also applying to Big Seam.

While as a whole, the output is sufficient to fill all demands, there is a scarcity of domestic grades, with practically none to be had in the spot market. Receipts are so limited as to barely meet the daily demand on retailers and no stocking has been possible. Some mine run is being sold for domestic use, though not enough has been diverted so far to boost the steam market.

With a labor supply practically normal at nearly all operations the output is now more or less regulated and restricted to the demands of the trade. Numbers of men thrown out of employment in the industrial field are flocking to the mines for employment. The present status of production is sustained to great extent by activity in iron and steel manufacture and coke making, along which lines there has been no curtailment as yet. Car supply is sufficient to meet production needs.

Strike losses are dwindling rapidly with the influx of this new labor. Agitation over union recognition still continues, but the strike has lost the "push" which was apparent in its earlier stages.

Canada

TORONTO

Price and Distribution Measures Approved—Outlying Sections Being Surveyed for Shortage—Conservation Is Urged.

The Canadian Railway Board has issued an order giving the provincial fuel administration the power, subject to the approval of the provincial government, to fix the maximum prices at which fuel may be distributed and sold within a municipality. This action has been considered necessary owing to conditions in some places from which complaints have been received.

A survey is being made of outlying points with a view to determining just where there may be any serious shortage. The situation generally is regarded as being satisfactory as regards the larger cities, but a number of the smaller places have not received the necessary supplies. H. A. Harrington, fuel controller for Ontario, states that the supply of coal for the province is 156,000 tons short of that last year and emphasizes the need of conservation.

News From the Coal Fields

Northern Appalachian

CONNELLSTVILLE

Coke Market Stagnant—Spot Prices Shade—Sellers and Buyers Far Apart on Contract Ideas.

As to actual business, the coke market has been extremely quiet. Coke operators and furnacemen are far apart in their views as to future prices, the furnacemen insisting that prices must come down to bottom, profits being telescoped all along the line, while coke operators are disposed to hold out for relatively high prices. The coke operators are in much stronger position than in previous periods of industrial depression, having made large profits and being in no need whatever of banking accommodations. The market has weakened a shade, furnace being \$8@ \$8.50 and foundry \$10@ \$10.50. Spot demand for furnace is extremely light while foundry is far from heavy, and the failure of prices to decline further is plainly attributable to the mental attitude of the operators, rather than to conditions of supply and demand. As operators are unwilling to think of coke at as low as \$6 there is no opportunity for serious negotiation on furnace contracts for the first half of the new year.

The *Courier* reports slightly decreased production in the Connellsville and Lower Connellsville region in the week ended Nov. 13 at 201,810 tons. Merchant ovens alone, however, show an increase of 5,700 tons, the furnace oven output being correspondingly decreased.

PITTSBURGH

Fresh Car Shortage Developed—Release of Flat Bottom Gondolas May Be Felt—Domestic Demand Is Heavy—Spot Prices Higher.

Beginning with an acute car shortage on the Pan Handle division of the Pennsylvania Nov. 12, shortage has spread to the whole Pittsburgh district, and in the past few days there has been a much stiffer market, amounting to an advance of 50c.@ \$1. Demand on the whole has been practically uniform. A further decrease in calls from the industries has been balanced by heavier domestic demand, while there has been larger buying for export and the railroads have been commandeering more coal than formerly.

The release of flat-bottom cars 42 in. and under from the coal priority order appeared to be intended effective Nov. 7, but as a matter of fact the order read "fixed-bottom gondolas" whereby the effect of the order was

nullified. The phraseology was changed, effective Nov. 16, to cover the drop-bottom type. Whether this change will seriously affect car supplies at coal mines remains to be seen. The whole priority order may be discontinued soon.

Domestic demand continues brisk and most retailers are behind in filling orders, even though throughout the period of car shortage they were well served by river shipments. The domestic demand is much greater than in previous seasons, on account of widespread predictions of a great decrease in natural gas supplies this winter.

With the recent advance we quote the spot market at \$4.75@ \$5.25 for steam mine run and \$5.50@ \$6 for best grades of screened gas coal.

CENTRAL PENNSYLVANIA

Labor Situation Improves—Prices Remain Firm—Car Supply Is Adequate—Smaller Operations Are Closing Down.

Greater stability in the labor situation exists at the present time. Practically all demands for increased wages have been eliminated. There is no shortage. The only unsettled condition is at Morrisdale, where 500 men are out, with no immediate prospect for a settlement. Reports from all over the field indicate an increase of 2 per cent in the number of men employed.

The drop in coal prices has not affected production. Spot prices range

\$4.75@ \$5.50. A number of wagon mines have closed, but this only has the effect of increasing the output in larger operations. Contract prices are in the neighborhood of \$4. Not many contracts are being negotiated. Spot quotations are very likely to reach contract levels in the very near future.

Car supply is adequate and mines supplied through the Baltimore & Ohio, Pennsylvania and New York Central lines are getting all the cars needed to supply the demand both for contract and spot coal.

FAIRMONT AND PANHANDLE

Confiscations Continue—Fairmont Cars Are Adequate—Growing Congestion at Tide—Fairmont Market Is Weak—Panhandle Prices Are Firm.

FAIRMONT

Confiscation of coal by the Baltimore & Ohio R.R. during the second week of November had become so flagrant that operators were threatening retaliation by tearing the B. & O. cards off cars on which they had been tacked. It was claimed that Vice President Galloway of the B. & O. had promised the Interstate Commerce Commission that an order would be issued stopping the wholesale confiscation, but up until the end of the week no such order had been issued.

During the greater part of the week there was an ample car supply. The middle of the period found about 50 mines idle on the Monongah Division of the B. & O. because of a shortage. There was a somewhat better run on the Monongahela and Western Maryland railways than on the B. & O.

Prompt movement was retarded by a serious congestion. This congestion was at Tide, where there appeared

Estimates of Production

FROM THE WEEKLY REPORT OF THE GEOLOGICAL SURVEY

BITUMINOUS COAL

	1920		1919 ^a	
	Week	Coal Year to Date	Week	Coal Year to Date
Oct. 30 ^b	12,407,000	452,964,000	12,111,000	401,762,000
Daily average.....	2,068,000	1,756,000	2,019,000	1,558,000
Nov. 6 ^b	11,420,000	464,384,000	3,582,000	405,344,000
Daily average.....	2,076,000	1,763,000	597,000	1,536,000
Nov. 13 ^d	12,091,000	476,475,000	4,024,000	409,368,000
Daily average.....	2,120,000	1,771,000	671,000	1,517,000

(a) Less one day's production during New Year's week to equalize number of days covered for the two years. (b) Revised from last report. (c) Counting election day, November 2, 1920, as 0.5 of a working day. (d) Subject to revision. (e) Counting Armistice Day, November 11 1920, as 0.7 of a working day.

ANTHRACITE

	1920		1919 ^b	
	Week	Coal Year to Date	Week	Coal Year to Date
October 30.....	1,727,000	50,705,000	1,588,000	53,742,000
November 6.....	1,415,000	52,120,000	2,008,000	55,750,000
November 13.....	1,753,000	53,873,000	1,860,000	57,610,000

(a) Figures revised from last report. (b) Less 2 days' production during first week of April to equalize number of working days covered for the two years.

BEEHIVE COKE

United States Total

Week Ended		1920		1919 ^a	
Nov. 13c	Nov. 6b	Nov. 15	to Date	Nov. 15	to Date
389,000	385,000	400,000	18,462,000	16,974,000	

(a) Less one day's production during New Year's week to equalize number of days covered for the two years. (b) Revised from last report. (c) Subject to revision. All figures in net tons.

to be a shortage of boats, Curtis Bay being embargoed.

Further recessions of prices were observed. On line shipments \$4.75 was the prevailing price at the end of the week, though some tonnage was being moved at \$4.50. The price on export was about \$5. In neither market, however, was there a very brisk demand.

NORTHERN PAN HANDLE

Mines found their production cut somewhat in the period ended Nov. 13, the run of cars being not quite so good either on the Pennsylvania or the B. & O. Shortage on the latter was due in part to the congestion on that system and to the reduced number of empties coming from Western points. Unfavorable weather conditions also affected the supply, although operators reported the rail movement as being good.

Prices have become fairly well stabilized. There was a very light demand throughout the week for block. The cold snap at the end of the week, however, stiffened prices somewhat, particularly on screened grades. Car supply was adequate.

EASTERN OHIO

Car Supply Is Inadequate — Labor Situation Unimproved — Cold Weather Hampers Movement — Price Decline Continues.

It was expected when Order 10 was first modified and later cancelled that there would be sufficient production to entirely take care of local contracts.

However, the fact seems to be that although the amount of coal going to the Lakes is considerably less than it has been for some time, labor situation and car supply have materially interfered with the anticipated progress. Colder weather of the last few days has resulted in the hampering of the railroads to an extent that the car supply has been reduced to a point where there have been few cars for other than railroad fuel loading, and prior to that period the available supply was very much reduced.

It is reported that the weather has almost crippled the railroads, resulting in most of the sidings in the mine fields being completely filled with loaded cars, many of which are destined to the Lakes and fear is expressed that navigation may close before these are delivered.

Prices continue to fall off; lump being quoted \$5@5.50 with the prospect that the price will be lower as soon as navigation is entirely over.

Middle Appalachian

HIGH-VOLATILE FIELDS

Car Supply Is Unimproved—Price Recession Is General—Steam Demand Weaker, but Domestic Call Stiffens—Good Western Movement—Buyers Are Inactive.

KANAWHA

There is little or no demand for free coal, inquiries for steam being limited

in volume. Such inactivity of course is conducive to even lower prices but operators generally showed no disposition to push their coal, feeling that buyers are deliberately playing a waiting game.

However, dullness in the market kept prices around \$4.75@5. Tidewater coal commanded a price of \$8. Little coal was moving however, owing to the general congestion at points along the Atlantic coast, resulting in retention of the embargo on high-volatile shipments over the C. & O. There was no suspension of operations, owing to the large tonnage due on contracts. Western shipments were unusually heavy because it was impossible to ship coal eastward. Lake shipments were light.

Owing to poor transportation facilities, there was not more than a 50 per cent production in the period ended Nov. 13. The third week of the month was ushered in with an extremely poor run of cars, mines having on the first day a placement of only 70 per cent.

There were some signs of life to the domestic demand, with the result that domestic lump was commanding a somewhat better figure than run of mine, the general price being about \$6 a ton.

NORTHEAST KENTUCKY

There was a spurt in production during the second week of November, the gain amounting to 7 per cent. There was still a loss of 35 per cent because of car shortage. Although the percentage of losses from a car shortage had been decreased 2 per cent there was an actual increase in the tonnage loss. The gain was due to the fact that there was a full week available, for losses from labor shortage, mine disability, etc., were reduced to 3 per cent.

A special effort is being made to supply the needs of Kentucky consumers. While there has been little activity in the spot steam market yet there has been no inactivity in production as a result of the limited demand and prices remained on about the same level.

LOGAN AND THACKER

The Logan output was far below normal, being less than 50 per cent. Cars were even more scarce than during the opening week of the month.

By Saturday movement to the Lakes had dwindled to only 300 tons. The spot call was extremely inactive, steam buyers being largely out of the market, and in view of general industrial inactivity in Western markets producers were not sanguine there would be any change for the better during the balance of November. At the same time they believed that buyers were "playing possum" to some extent in order to further depress prices. There was a heavier demand for domestic, which was moving to Western market, as Eastern points were closed to a great extent by embargoes. For such steam coal as was sold a price of about \$5 was obtained. Lump brought \$6 a ton.

Because mines were not being oper-

ated in full owing to the strike, the Williamson field was little troubled by a car shortage. Labor shortage and strike losses were still in the neighborhood of 40,000 tons each. Gains had been made during the week to some extent in production and in the number of men at work, despite the fact that property was being destroyed by those still connected with the strike movement. Prices in the Williamson field were running about the same as in other high-volatile districts, the average in the spot market being \$5. By far the larger part of production was flowing to Western markets. As wagon mine operators were unable to produce coal at \$5 there had been a general suspension of operations at team-track mines.

VIRGINIA

Mines were able to speed up production in the period ended Nov. 13, output reaching 140,000 tons, with 23,000 tons additional produced for use in coke ovens. Labor shortage losses were reduced but the car service was not as good as it had been averaging.

Market conditions were satisfactory although there was not a particularly strong demand. There was a fair call for Inland, and a more insistent market for prepared sizes but such were hard to obtain. For lump, prices were holding around \$5, with mine run about \$4.50.

Owing to the decreased demand for coke, ovens in many instances are being blown and the surplus coal ordinarily used is being applied on contract. The cold wave increased the domestic demand.

LOW-VOLATILE FIELDS

New River and Gulf Output Still Curtailed by Car Shortage, Other Districts Much Improved—Price and Demand Still Weak—Labor Is More Plentiful—Scarcity of Boats Restricts Tide Movement.

NEW RIVER AND THE GULF

A shortage of cars was especially marked in the New River field throughout the entire week, Monday alone excepted. Mines were not producing at a rate greater than 50 per cent of potential capacity, the entire loss being attributable to a scarcity of equipment.

Little of the output was going to the Lakes, shipments not amounting to more than 1,500 tons per day. Most of the output was bound Tideward, but there was no marked demand for either export or bunkering. Demand, however, was perhaps stronger there than Inland. There was a disposition among producers to regard the present lull as largely temporary. On the other hand, they rather welcomed prevailing prices, such as \$5 for mine run and \$6@6.15 for prepared sizes, with export prices about \$9.

Chesapeake & Ohio mines in the Gulf region were still operating on a limited basis, having a car service about 70 per cent of normal, Virginian mines

being accorded an 80 per cent supply. Orders were sufficient despite the inactive market to utilize the entire output, virtually the entire tonnage going to Eastern destinations, much of it for bunkering and export. Some of the output was moving to Virginia markets and there was also a considerable tonnage for the navy.

POCAHONTAS AND TUG RIVER

Coal loaded in the Tug River field during the week ended Nov. 13 totaled 94,900 net tons, being the largest weekly output during the present calendar year with the exception of the third week of July. The cold wave which made its appearance had no apparent effect on domestic demand or prices, both of which began to slow up some time ago.

Wagon mines are experiencing difficulty in selling all their coal on the open market. Some such coal has been set out in the Bluefield yards because of the inability to find a market even at \$4.50. As a matter of fact the average wagon mine cannot market its product profitably under \$5 a ton.

Tipple operators say that these small mines produce inferior coal which is of no material benefit to the industry.

The attitude of labor is improving and that may be hastened by the fact that agents are now in the field endeavoring to place a large number of men with mining experience who have been laid off by industrial works in Michigan and the Mid-West.

As quiet as was the spot market it failed to slow up production in the Pocahontas region. Contract deliveries together with such spot orders as were received took up the entire supply produced. Such losses as did develop were attributable to car shortage, yet even these losses were not so large as they had been during election week. That fact and reduced labor shortage losses tended to increase the output.

There was only a weak demand at home and abroad, and vessels at Tidewater were none too plentiful for the large contract tonnage which was moving eastward. Coal sold on the open market was bringing about \$5 a ton. The demand for Pocahontas fuel in the West had undergone a change downward so that there was not much coal moving in that direction or to the Lakes.

Middle Western

WESTERN KENTUCKY

Domestic in Good Call—Steam Weakens Further—Operators Seek Competitive Rates.

Demand for lump has increased as a result of colder weather. This has made for a slightly better price.

Operators are strongly in hopes that the Interstate Commerce Commission will soon be able to correct the discrimination that exists in handling ship-

ments into Indiana in competition with Indiana operators, who are getting very low intrastate rates. Jobbers and manufacturers in other lines are also making a fight on this.

A better field for shipments is in prospect in connection with the petition of the West Kentucky Coal Bureau for through rates to northern Missouri and Arkansas. The I. C. C. has arranged a formal hearing at Louisville on Dec. 1, when operators will contend for a through rate of 25c. over the rate from southern Illinois. The operators of the latter field will file an intervening petition as they are fighting every attempt at a competitive rate.

The best price on lump is \$7.50, with mine-run, \$4.25. Steam is moving fairly well, but industrial demand is much lighter.

DUQUOIN

Slight Decline in Car Supply—Demand Is Sluggish—Railroad Buying Curtailed—Prices Weaken Further.

There was a possible slight falling off of the car supply. During the latter part of the week especially, many of the mines did not receive sufficient cars to operate full time, while some were idle. Production averaged about 70 per cent.

Some of the operations shut down on Nov. 11 as a holiday and every effort was made to make up for the tonnage which was lost on account of this.

The demand still seemed sluggish and was rather unusual after the sudden cold spell. Steam demand fell off considerably, probably due to the fact that three of the large railroads have temporarily withdrawn from the market. Prepared sizes were in better demand. The largest part of the output is moving into Chicago and other northern cities, while very little or none is being shipped toward St. Louis. Labor conditions seemed unusually quiet. Prices on screenings were around \$3.50@4; mine run, \$3.75@4.25, and lump, \$4@4.25.

Southern Appalachian

SOUTHEASTERN KENTUCKY

Car Supply Is Finally Increased—Domestic Demand Is Good—Steam Call Weakens.

Production for week ended Nov. 20 showed marked increase over prior weeks although an unprecedented snowfall severely hampered efforts of operators to promptly load cars furnished. Many mines report three full days' car supply with prospects for an equally good supply this week.

Demand for prepared sizes is strong with price quotations around \$6 for domestic and \$5 for mine run. Southern demand is rather light with many cotton mills seeking to cancel contracts, due to their shutting down.

Kentucky, Ohio and Indiana are the principal buyers of domestic with the trade willing to take any kind of railroad equipment. Some mines are even resorting to loading box cars, which are plentiful and are not charged against the mine rating of open-top cars.

Western

UTAH

Car Situation Is Now Improving—Labor Supply Is Adequate—Influx of New Men.

The car situation in Utah is improving. In addition to the relief furnished by the Interstate Commerce Commission, which was appealed to for cars, many empties which have been used for hauling beets are being diverted to the coal fields.

The labor situation continues satisfactory. High wages paid at the mines are attracting many men from other lines, a great proportion of whom, however, are not found suitable for coal mining. Operators are able to use all experienced men.

Operating Conditions at Indiana Coal Mines, October, 1920

PREPARED BY JONAS WAFFLE, SECRETARY INDIANA COAL TRADE BUREAU

Railroads on Which Mines Are Located	District	No. of Mines	Tons Produced	Full Time Capacity (Tons)	Tons Lost and Cases Therefor			
					Total All Causes	Car Shortage	Labor Trouble	Mine Disability
Big Four.....	Terre Haute.....	6	81,311	116,481	35,170	28,685	4,636	1,849
B. & O. S. W.....	Vincennes.....	2	33,830	44,903	11,073	1,422	9,360	291
C. & E. I.....	Clinton.....	26	316,951	461,460	144,509	82,987	51,064	10,458
	(1) Sullivan.....	18	214,304	291,108	76,804	56,835	11,291	8,678
	Total.....	44	531,255	752,568	221,313	139,822	62,355	19,136
C. I. & W.....	Dana.....	1	10,075	10,075				
Cent. Ind.....	Brazil.....	1	3,666	3,823	157		157	
C. T. H. & S. E.....	Clinton.....	14	220,917	346,919	126,002	116,527	7,003	2,472
	Linton.....	28	281,835	435,021	153,186	115,421	9,317	28,448
	Total.....	42	502,752	781,940	279,188	231,948	16,320	30,920
E. I. & T. H.....	Clay City, Petersburg.....	13	130,401	237,324	106,923	79,998	11,970	14,955
E. & E.....	Evansville.....	2	12,753	13,740	987	512	475	
	Evansville.....	4	29,505	37,186	7,681	6,123	1,248	310
	Total.....	6	79,784	109,854	30,070	23,943	2,761	3,366
Monon.....	Linton.....	21	234,704	363,282	128,578	80,342	14,055	34,181
P. C. C. & St. L.....	(5) Main Line.....	20	228,545	331,637	103,092	65,437	7,603	30,052
	(6) Vincennes.....	20	510,945	663,851	152,906	112,797	8,908	31,201
	Total.....	40	739,490	995,488	255,998	178,234	16,511	61,253
Southern.....	Ayrshire.....	7	72,595	108,212	35,617	15,409	7,781	12,427
	Boonville.....	9	80,678	101,875	21,197	4,095	7,454	9,648
	Total.....	16	153,273	210,087	56,814	19,504	15,235	22,075
Totals.....		198	2,542,799	3,676,751	1,133,952	790,533	155,083	188,336
Totals for month ending Sept. 30, 1920.....		195	2,315,621	3,493,005	1,177,384	906,098	105,645	165,641

(1) Includes all mines South of Terre Haute. (2) Mines served by two railroads. (3) Mine served by two railroads. (4) Four mines served by two railroads. (5) Includes all mines on St. Louis and Michigan Divisions. (6) Includes all mines on Vincennes Division and Dugger Branch.



MINE And COMPANY NEWS



ILLINOIS

The Southern Gem Coal Co. has purchased the mine operated by the Ritchey Coal Co., of Pinckneyville. The deal was made through the officers, Jesse Dimond and Thomas Horn, of the Southern Gem Co. The company has recently purchased several other mines along the Wabash, Chester & Western R.R., and it is reported that they intend to sink a new mine about two miles west of the Ritchey mine. The deal was made for \$300,000.

The Henrietta mine, near Edwardsville, which has not been operated for several months, has been leased by two St. Louis men, A. J. Fleming and W. H. Chapple, who intend to reopen the mine and operate it. The I. X. L. Coal & Mining Co., of St. Louis, owns the mine and it was partly destroyed by a windstorm early last spring. The lease covers 450,000 tons of coal to be mined.

The summarized annual report of the Illinois Department of Mines and Minerals shows that 73,920,653 tons of coal were mined in Illinois during the last year. Mines in Illinois worked an average of 159 days, and 88,899 men were given employment. The total amount of coal mined is a decrease as compared with the next previous year, on account of the shortage in coal cars. No miners in the state are on strike at the present time and all labor troubles among the men are apparently settled. The general situation among the miners is favorable.

The drift mine near Crainville, south of Duquoin, which has been operated for the past two years by Pratt Bros., is reported sold to the Tanner-Rome Coal & Iron Co., of Chicago.

The Union Fuel Co., of Chicago, which operate a number of mines in central Illinois, has recently purchased the plant of the Greenridge Mining Co., near Carlinville, Macoupin county. The new owners have announced their intentions of developing the mine to its fullest extent and will no doubt make many repairs and improvements on the plant.

The following commission composed of representatives of miners, operators and the public, appointed by Gov. Lowden to recommend amendments or revisions of the state mining laws to the next General Assembly, has been announced. Operators: A. B. McLaren, Marion; Rice Miller, Hillsboro, and H. C. Perry, East St. Louis. Miners: Joseph Sommers, Zeigler; Dennis Morefield, Duquoin, and Charles McMahon, Carrier Mills. Representatives of the public: Charles Woodward, Ottawa; Thomas Hudson, Galva, and P. H. Donnelly, Chicago.

The Lumagli Coal Co., of St. Louis, operating a mine near Collinsville, northwest of Duquoin, is installing a new 200 kw. Rigeway Motor-Generator Engine Set which will aid greatly in increasing the tonnage of the plant. The new outfit will be ready for use within a few weeks.

In accordance with the plans of many of the largest coal companies in the state, the Peabody Coal Co., is now making arrangements for the erection of 100 houses at Kinkaid. Several years ago when the site was laid off, many more houses were planned than were built and the industry has grown to such an extent that the house building proposition is the only relief in sight.

INDIANA

The McClelland Coal Co., of Terre Haute, has filed suit to prevent the enforcement of the coal rulings of the Indiana Fuel and Food Commission. Action was taken in the Vigo County superior court Nov. 2, naming Perry Douglas, prosecutor of the Forty-third judicial district, and Otto L. Klauss and Jesse E. Eschbach, both of the commission, as defendants. The complainant asks that the commission be enjoined from interfering with the operation of the mine and its products. The complaint sets out that prior to July 31, the company signed a contract with the Bickett Coal Co., of Cook County, Ill., and, according to the terms of the contract, the Bickett company was to receive coal at a stipulated price, which contract is jeopardized under the

commission. The company alleges it can not operate at a profit under the jurisdiction of the commission.

Articles of incorporation have been filed by the Montezuma Coal & Mining Co., a new organization formed at Clinton. The company is capitalized at \$50,000 and the directors are Silas Jones, David Reed, Mor-dica Jones, Samuel Holechko and Jasper N. Frist.

Announcement was made recently of the formation of the Jacksonville Coal Co., with a home office at Terre Haute. The directors are Paul E. Turk, Clifford H. Neukom and James A. Wallace.

The Old Massie Coal Mines, on the Big Four R.R., about eight miles south of Petersburg, which have been abandoned for the past 10 years, will be reopened. Work of clearing the old switch right of way has been started and the mine shafts are being cleaned out preparatory to the construction of new tipples. Commodore Bugg, an Oakland City coal operator, has charge of the work.

The Sargeant Coal Co., of Newburg, has ordered of Krehbiel Co., Chicago, a three track Jacobsen horizontal screen and picking table for their Mine No. 2.

The Glendora Coal Co. has started sinking a shaft for a new mine near Sullivan. A four track Jacobsen horizontal screen and picking table, having a capacity of 4,000 tons per day, has been ordered of Krehbiel Co.

KENTUCKY

Recent incorporations in Kentucky include the following:

The King Blue Gem Coal Co., Manchester, increasing capital from \$3,000 to \$10,000.

Verda Harlan Coal Co., Verda, \$25,000, Julian Brugh, George Sharpe and C. L. Smith.

Devonian Coal Co., Ashland, \$35,000, Oliver M. Elam, James G. Serey and J. T. O'Neil.

Robinson Coal Co., Madisonville, \$50,000, J. T. Terry, L. R. Robinson, and F. O. Baker.

Landrum Coal Co., Pineville, \$125,000, W. B. Landrum, John A. Creech and C. F. Wheeler.

The St. Bernard Mining Co. has placed a contract with Krehbiel Co., of Chicago, for modernizing their Shamrock Mine, near Providence. The contract includes a steel head frame, tipples and a three track Jacobsen horizontal screen and picking table.

Reports from Pikeville are to the effect that the Kanawha Elkhorn Coal Co. has purchased the properties of the Lower Elkhorn Coal Co., and the Peerless Elkhorn Coal Co. and plans purchase of larger holdings in the Elkhorn City district on the C. & O. The company is a \$2,000,000 corporation, with large holdings in Kentucky and West Virginia.

The October Grand Jury at Louisville was unable to find any evidence of coal profiteering, and so reported in its final report, although it alleged that prices were unreasonably high, and there should be investigation. It was stated that no evidence could be found against any local operator or dealer.

Fire near the opening of the Arnold mine owned by the St. Bernard Coal Co. of Evansville, Ind., one-half mile east of Earlinton, Ky., entrapped 16 men, and with the conflagration growing in extent little hope exists for rescuing them. A call was sent to Evansville for the mine rescue car there, but the car was at Winslow, Ind., too far from the fire to be taken there in time for use. It was later learned that five miners were killed in the fire. The bodies of these men were recovered. The rescue, effected by tunneling around the fire which had shut off the single entry to the mine, came 20 hours after the flames broke out. Three white miners among the 16 trapped are among the dead, all of the rescued being negroes, as is the one missing man.

The mine rescue section of the Pittsburgh station of the Bureau of Mines, immediately ordered a mine rescue car at Seco, Ky., to proceed to the scene of the disaster and give all possible aid in rescuing the entombed men.

OHIO

A number of new Ohio coal mining companies have been chartered during the past month. Among the number are:

Economy Coal Co., Atwater, capital \$15,000, incorporators, G. W. Murphy, C. H. Bartholomew, L. H. Huston, J. C. Mathieu and J. B. Workman.

Blue Ridge Coal Co., Dillonvale, capital \$10,000, incorporators, H. T. Roe, L. Roe, H. C. Rogers, J. H. Hess and J. Meister.

Shawnee & McCunesville Coal Co., Shawnee, capital \$10,000, G. S. Robinson, B. Jones, W. H. Jaynes, R. M. O'Hare and E. Cox.

Roach Creek Coal Co., Cincinnati, capital \$1,000,000, incorporators, L. R. Townsend, C. Slough, E. A. Spreen, G. Erau and J. Ridell.

Drayer Coal Co., Dayton, capital \$140,000, incorporators, I. I. Hauer, I. F. Craig, H. C. Kemper, T. Ruttman and M. L. Kuhlman.

Helen Coal Co., New Philadelphia, capital \$100,000, incorporators, J. U. Horger, H. I. N. Stafford, M. W. Stafford, N. D. Lamberson and C. A. Lamberson.

Duck Run Coal & Refining Co., Portsmouth, capital \$500,000, incorporators, W. E. Tripp, H. H. Morgan, P. H. Harsha, W. S. Kent and C. F. Duteil.

Official announcement has been made of the proposed \$2,000,000 coke plant to be located on what is known as Campbell's Island, north of the Ford Plant at Hamilton.

Monsarrat Bros., coal operators of Columbus, will soon open a new mine at Glenville, located on the T. & O. C. A shaft has been sunk.

PENNSYLVANIA

The Western Maryland Ry. Co., Baltimore, will install electrically operated machinery at its new coal pier, now in course of construction at Port Covington, Md., including hoisting, loading, conveying and other machinery. The pier will have a capacity of 40 cars per hour, or a daily output of about 25,000 tons, and is estimated to cost about \$1,000,000.

One coal land deal reported recently, which has caused considerable interest, is the sale to Josiah V. Thompson, of Uniontown, by Ingham Cummins of 270 acres of Whiteley and Franklin townships lands for a total consideration of \$75,950. The sale brought \$285 an acre.

The Workmen's Compensation Board, in the case of George Ashfield, of Mahanoy City, vs. the Philadelphia & Reading Coal & Iron Co., which came up on the claimant's petition for a review of his compensation agreement, ruled that in view of the facts the final receipt was set aside and the agreement, thus reinstated, is suspended.

Damage of more than \$1,000,000 and complete abandonment of the Katherine mine of the Union-Connellsville Coal & Coke Co. at Simson, near Brownsville, will result from a disastrous fire which broke out recently. A statement to this effect was made by James R. Cray of Uniontown, president of the company. The fire originated in the main shaft where burning timbers ignited the main workings, the blaze spreading rapidly to all sections of the mine. All the 200 workmen escaped. Grave danger exists, however, that the fire may never be extinguished. There are at least six burning mines now in Fayette County that have been in flames for more than thirty years. In this case the damage would easily run to \$5,000,000. The plant is modern, having been erected in 1908. In addition to the big coal workings a battery of 148 push ovens, equal to 200 beehive type, have been built.

The Commissioners of Navigation report the exports of coal from the Port of Philadelphia up to Nov. 1 as equal to the entire tonnage of last year, the total for this year being 2,104,000 tons, this being 1,099,490 more than shipped in the same period of 1919. This tonnage was divided into 2,021,017 tons of bituminous coal and 83,923 tons anthracite. Shipments via the Phila. & Reading Ry. and the Penn. R.R. ran about 450,000 tons each for September and October.

WYOMING

Arguments have been heard in the Supreme Court in the case of the government against the **Diamond Coal & Coke Co.** of Wyoming from the 8th circuit, involving alleged fraud in patenting coal lands. Suit was brought by the government to cancel patents to coal lands which it is alleged the coal company procured through fraud. While admitting the fraud the coal company plead the statute of limitations as the suit was not instituted by the government until thirteen years after the commission of the alleged fraud. The limit fixed by the statute is six years unless the government can prove that it had exercised reasonable care and diligence in discovering the fraud and that it had no knowledge of the fraud, and further that the coal company concealed the fraud by trick and artifice. The government having failed to prove these exceptions, the lower court held the action to be barred by the statute of limitations, from which the government appealed to the Supreme Court. An early decision in the case is expected.

Production throughout the state is better than during 1919, particularly in the southern Wyoming mines. If the present ratio of increase is maintained for the remainder of the year, Wyoming will close 1920 with 1,500,000 tons in excess of the 1919 figures, according to Robert T. Snedding, coal mine inspector for District 1. Coal mined in the five counties in his district during the first six months was 2,220,639 tons, an increase over a similar period last year of 768,883 tons.

WEST VIRGINIA

The **Champion Collieries Co.**, Wheeling, Cleveland, Ohio, recently organized with a capital of \$1,000,000, is planning for the development of its coal lands in Wheeling to increase its daily capacity. Electrical equipment for all features of operation will be installed at an early date.

The **Kanawha Cannel Coal Co.** is a new Kanawha concern, having a capital of \$50,000, which will engage in the business of producing coal in the cannel fields of the Kanawha district. Principals in the new concern are: A. M. Straughan, Fannie M. Straughan, J. F. Greenleaf, C. M. Carson and W. C. Barger.

Several large West Virginia coal companies figured in a merger of all the Paisley interests in West Virginia and other states, under the name of the **Connellsville By-Products Coal Co.**, a \$5,000,000 concern. One of the largest companies taken in under the merger plans is the Kelly's Creek Collieries Co. operating in the Kanawha field. Other companies absorbed were the Elm Grove Mining Co., of Wheeling, W. Va.; Valley Camp Coal Co. of Cleveland, Ohio, in Elm Grove, W. Va., and in the Allegheny River Valley; Arkwright Coal Co. of Fairmont, W. Va.; Great Lakes Coal & Dock Co., Superior, Wis.; Fort William Dock Co. of Ft. William, Can. The Connellsville Co. will now have on its pay-rolls about 10,000 men. This concern recently acquired about 13,000 acres of coal land in the Monongalia field upon which development work will be started in the near future. The president of the Connellsville By-Products Co. is James A. Paisley of Cleveland, Ohio, John McCartney Kennedy of Pittsburgh, Pa., being the secretary.

Further development of West Virginia's coal resources on a very large scale was reflected in the large number of coal corporations formed in West Virginia in the month of September. More than half of the 106 resident charters issued by the Secretary of State to newly organized resident corporations of all descriptions were issued to new coal companies, there being 54. But the total capitalization of the new coal companies organized—most of them to be operating companies—amounting to \$9,689,000 was decidedly more than half the combined capitalization of all companies formed, amounting to \$14,469,000.

If the five non-resident coal companies organized be added to the total already given, it brings the total capitalization of both resident and non-resident coal corporations launched up to \$10,404,000, as the combined capitalization of the non-resident coal companies was \$725,000. The largest coal corporation organized during the month was the Connellsville By-Product Coal Company, with a capitalization of \$5,000,000, in which James A. Paisley and others of Cleveland and Pittsburgh are heavily interested.

Other new coal corporations chartered in September, together with the capitalization and general headquarters, insofar as it is possible to give such information, are shown in the following table.

NEW COAL CORPORATIONS IN WEST VIRGINIA

The Happy Hollow Coal Co.	Charleston	\$5,000
J. Lee Hornor, Inc.	Clarksburg	50,000
East Wheeling Coal Co.	Mannington	100,000
Craig Coal Mining Co.	Kingwood	200,000
Thomas Smokeless Coal Co.	Meadow Bridge	100,000
Glencoe Coal Co.	Mt. Hope	200,000
The Pure Coal Co.	Charleston	100,000
North Matewan Coal Co.	Matewan	50,000
Howard Coal Co.	Fairmont	75,000
Comfort Coal Co.	Charleston	50,000
Rex Coal Co.	Wheeling	50,000
Ranger Coal Co.	Wheeling	50,000
Eskins Coal Co.	Chelyan	20,000
Yale Coal Co.	Montgomery	50,000
Shriver Coal Co.	Morgantown	300,000
The Anns Run Coal Co.	Fairview	25,000
Lick Branch Coal Co.	Charleston	25,000
Marteny Coal Co.	Morgantown	25,000
Lick Fork Collieries Co.	Huntington	500,000
Pocahontas-Bradshaw Coal Co.	Dan	10,000
Mohican Coal Land Co.	Princeton	10,000
S. & L. Coal & Coke Co.	Clarksburg	150,000
Julian Coal Co.	Julian	50,000
Man Mining Co.	Man	100,000
H. & H. Fuel Co.	Charleston	50,000
Dents Run Coal Co.	Morgantown	50,000
City Fuel Co.	Fairmont	50,000
The Hub Coal Co.	Morgantown	50,000
Berkeley Coal Co.	Hughey	100,000
J. W. Miller Coal Co.	Three Mile	25,000
Brewer Coal Co.	Morgantown	100,000
Peerless Smokeless Smthing Coal Co.	Morgantown	100,000
Green Coal Co.	Stollings	50,000
Rogers Colliery Co.	Ottawa	50,000
Fairmont-Reynolds Collieries Co.	Clarksburg	75,000
Ferdell Coal Co.	Fairmont	25,000
H. H. Lough Coal Co.	Lumberport	50,000
Lester Smokeless Coal Co.	Beckley	10,000
Pan Handle Fuel Co.	Wheeling	25,000
Comfort Coal Co.	Charleston	50,000
Eden Park Coal Co.	Sand Creek	10,000
Wierton Coal Co.	Wierton	25,000
Mary Coal Co.	Kingwood	100,000
Lancaster Coal & Coke Co.	Kanes Creek	35,000
Triad Coal Co.	Reedsville	25,000
Schell Coal Co.	Hubbard	50,000
Alcone Coal Co.	Williamson	4,000
Suddarth Coal Co.	Grafton	25,000
Roaring Creek Collieries Co.	Kingwood	50,000
Beckley Pocahontas Coal Co.		1,000,000
Tompkins Byproduct Coal Co.	Huntington	100,000
Pearl Coal Co.	Williamson	100,000
Penn American Coal Co.	Pittsburgh, Pa.	100,000
Oceanic Coal & Coke Co.	Philadelphia, Pa.	250,000
Daleport Coal Corp.	Huntington	100,000
The Clermont Coal Co.	Punxsutawney, Pa.	250,000
Stafford Coal Co.	Kimball	
chief works	Kentucky	

The following companies increased their capital stock in September.

	From	To
Sunbeam Coal Co.	50,000	150,000
Thermo-Pocahontas Coal Co.	100,000	200,000
Ossage Coal Co.	225,000	500,000
Abrams Creek Coal & Coke Co.	275,000	500,000
Monongahela Coal Co.	500,000	700,000
Manhasset Coal Co.	10,000	30,000
Inter-Mountain Coal & Lumber Co.	500,000	1,000,000
Mount Morris Mining Co.	25,000	75,000
Hopkins Fork Coal Co.	300,000	400,000
Higgins Coal Co.	20,000	40,000
Follansbee Gas Coal Co.	150,000	175,000
White Oak Fuel Co.	1,200,000	1,250,000

Association Activities

Central Pennsylvania Coal Producers' Association

The subcommittee of the committee of operators appointed at the conference held in Altoona, Pa., last week and composed of Chairman James H. Allport of Barnesboro, Secretary Charles O'Neill of Altoona and H. J. Meehan of Johnstown, has drafted a set of rules for the elimination of unwise practices and these have been submitted to the whole committee for consideration. The aim is to prevent unnecessary middlemen and their accompanying profit from increasing the price of coal to the consumer.

Northeast Kentucky Coal Association

At a meeting held early in November, the association adopted a resolution endorsing those passed by the bituminous operators at the Cleveland meeting, pledging the association through a Fair Practices Committee to eliminate insofar as possible unreasonable prices as well as practice inimical to the industry and to the public so that there might be no occasion for investigation or prosecution at the hands of the Department of Justice.

The association designated its president—Charles W. Connor, of Esco, Ky., as chairman of the committee. The chairman ap-

pointed the following operators to act with him on the committee: J. G. Smyth, Jenkins, Ky., Kentucky Manager of the Consolidation Coal Co.; Henry LaViers, of Paintsville, Ky., second vice president of the association; Cadwalader Jones.

Southwest Virginia Operators' Association

Thirty-five producing companies representing about 90 per cent of the production of the Southwest Virginia districts recorded themselves through association action recently as fully concurring with the sentiments expressed by coal operators at the Cleveland meeting.

Having expressed its approval of the Cleveland resolution, the association immediately proceeded to adopt resolution creating a Fair Practices Committee, so that there may be full co-operation with the Department of Justice and its representatives in the movement to discontinue and prevent high prices and any unwise or unfair practices which may exist.

Seven operators were selected to serve on the committee, the St. Charles district, the Wise County district and the Carolina, Clinchfield and Ohio district being represented. Operators and consumers alike have been invited to report any cases of unfair practices to the committee, which is composed of the following operators: C. J. Creveing, general superintendent Blackwood Coal & Coke Co., Blackwood, Va., chairman; Grover E. Orr, Benedict Coal Co., St. Charles, Va.; Otis Mouser, vice president Stonega Coke & Coal Co., Big

Stone Gap, Va.; D. A. Patterson, general superintendent Virginia Iron, Coal & Coke Co., Toms Creek, Va.; C. B. Neel, general manager Raven Red Ash Coal Co., Red Ash, Va.; Vice President Long of the Clinchfield Coal Corporation, Dante, Va.; R. S. Johnson, Elkhorn City, Va.

Northern West Virginia Operators' Association

With the appointment of George S. Brackett as commissioner for the Fair Practices Committee of the Northern West Virginia Operators' Association, investigation of complaints is proceeding more expeditiously in view of the fact that an organization is being perfected for that purpose.

A uniform dead work scale is to be drafted by a commission appointed specifically for that purpose, such a course having been decided upon by the directors of the Northern West Virginia Operators' Association held in Fairmont Oct. 20. Such action was deemed necessary by the association because of the frequent disagreement between miners and operators as to what should be paid for different classes of dead work, particularly in the Elkins district.

While no decision has been reached as to the size of the commission its membership will be equally divided between operators and miners. President Fleming of the association will name the commissioners who will act for the operators. When duly organized the commission will be expected to gather information and data sufficient to cover any case which may arise as to dead work.

There has been much individual interpretation of the rate of pay for different kinds of dead work resulting as might be expected in much confusion. It is believed that the commission to be appointed will insure greater uniformity.

Traffic News

Canadian Pacific Ry.—The shortage of fuel oil is causing some concern to western transportation officials. The Canadian Pacific Ry. is reported to be seriously considering reverting to coal for its locomotives. The Union Oil Co. has a contract to supply the railway with oil until the end of the year, and is of the opinion that it can still continue to keep the company supplied after that. In view of the uncertainty, however, the C. P. R. men are making such arrangements that in the event of a definite shortage of fuel oil they will be able to carry on without inconvenience. The Pacific Great Eastern has four locomotives that can be readily converted to coal burners. In the meantime this company is fortunate in having secured a large reserve of fuel oil.

New 120-Ton Coal Cars—The Norfolk & Western shops at Roanoke will build 1,000 steel coal cars of a capacity of 120 tons each. The largest car now in use on this road is 100 tons. Almost 34,000 coal cars are now owned and in use by the Norfolk & Western.

Ohio Public Utilities Commission—Cincinnati coal men, while interested in the suspension by the Public Utilities Commission at Columbus of the new coal freight rates on the roads operating in Ohio, scheduled to take effect Nov. 18, expressed the belief that cities north and west of Cincinnati would be more affected than Cincinnati as most coal sold here comes from West Virginia and Kentucky. The suspension of the new freight rates by the Utilities Commission was made on the ground that the railroads had advanced rates more than the 40 per cent increase recently authorized by the commission.

Ohio River Coal—There was a movement of 1,946,000 bushels of coal or about 77,840 tons down the Kanawha River to the Ohio during the month of October, according to figures compiled by the United States Engineer's office at Charleston. While the tonnage moving over the water route was less than the August tonnage of 127,280 tons and the September movement of 113,160 tons that was because of the low stage of water in the Kanawha River. On Nov. 5 a conference of officials of the central West Virginia coal companies and United States engineers was held at Wheeling with a view to arranging for an artificial wave on the Ohio River in order that a large tonnage of coal now awaiting movement along the Kanawha

River may be transported, low water having held up millions of bushels.

In complaints to the I. C. C. the Oliphant-Johnson Coal Co. of Indianapolis and Vincennes, Ind., attacks as unreasonable the rates on coal from Seifert and Turner, Ind., to Sandusky, Ohio, and requests refund of \$3,600 on former shipments.

The Interstate Commerce Commission has assigned for oral argument at Washington the cases of the Central Illinois Coal Traffic Bureau and the Fifth and Ninth Districts Coal Bureau vs. the Director General.

Utah Coal Lands.—The District of Columbia Court of Appeals reversed a decision of the District Supreme Court which had granted a mandamus against Secretary of Interior Payne to compel him to grant a patent to William F. Olson for coal lands in Utah. The secretary had decided that Olson was entitled only to the mineral content and that the surface of the land belonged to the state of Utah. Olson declined to accept and sought mandamus for the whole title to the lands, claiming that the secretary's decision was arbitrary and beyond his jurisdiction. The Court of Appeals upheld the right of the secretary to exercise equitable jurisdiction in deciding controversies over public lands.

The Interstate Commerce Commission has cancelled the hearing scheduled for Nov. 16 at Washington in the matter of regulations governing dumping, skidding, trimming and leveling coal and coke at Virginia ports, and will hear the case at a date to be announced later.

The Evansville, Indianapolis and Terre Haute Ry., which is an important coal-carrying road, has asked the I. C. C. for authority to acquire and operate the line of railway formerly known as the Evansville and Indianapolis R.R., which extends from a point known as Straight Line Junction where it joins the Chicago & Eastern R.R. about four miles from Evansville to a connection with the line of the Cleveland, Cincinnati, Chicago & St. Louis Ry. in Terre Haute.

Industrial News

Philadelphia, Pa.—The Seaboard Fuel Corporation have opened offices at 437 Chestnut St., where they will engage in a general coal and coke trade. They also announce the opening of a branch office at Fairmont, W. Va., under the management of Gordon B. Late.

The U. S. Shipping Board used considerable display space in local papers advertising for offers on 3,577 tons of Pool 33 bituminous coal on the basis of a price for the entire lot "as is where is." The coal is on the dock at Pier 98, south, foot of Oregon St. The coal was removed from the S. S. Alderman.

The Cortright Coal Co. announce that they have been appointed sales agents for the Hastings Fuel Co., with mines at Hastings, Pa. The Cortright company will market this fuel under the trade name of Beaver 6.

Personals

R. E. Alexander has been appointed superintendent of mines 50, 62 and 84 of the West Virginia division of the Consolidation Coal Co., according to an announcement just made by C. H. Tarleton, manager of the West Virginia division of the above-named company, succeeding **Charles Clayton**, resigned. Mr. Alexander has been in the service of the Consolidation for some time, having acted in many capacities at the 62 mine of the company.

Arch Coleman, chairman of the County Republican Committee, and his brother, **F. W. B. Coleman**, as campaign manager for Walter Newton, congressman from the Minneapolis district, received a great deal of praise for the efficient work of their organizations in the recent election. The Colemans are of the City Fuel Co.

Max G. Eddleman of the Union Colliery Co., at Dowell, Ill., has resigned to accept a similar position with a large company at Coffeen, Ill.

Clyde Justice, who has held several positions with various coal concerns, has accepted a position in the offices of the Jewel Coal & Mining Co., at Duquoin, Ill.

The silver cup won last month by J.

Bert Ross in the Buffalo Coal Men's Golf Tournament was presented on Nov. 9 with appropriate address by C. J. Renwick of the committee of arrangements. **Grant H. Jones**, who was one stroke behind the winner, was given a gold pencil as consolation prize.

M. R. Campbell has returned to the Washington office of the Geological Survey after an investigation of coal fields in Wise County, Va.

James Miller, mine manager of the mine of the Madison Coal Co., at Divernon, Ill., has resigned and will be succeeded by the assistant manager **James Thain**.

Thos. J. Kennedy, civil-sanitary-mining engineer, Scranton, Pa., has opened up an office in connection with J. H. Rittenhouse & Son, consulting engineers.

Frank Kennard, of West Liberty, Ky., was perhaps fatally injured in an explosion at his mine on Rock House Creek, on Oct. 20. Mr. Kennard is state representative from Morgan County.

The Geological Survey has detailed **George W. Holland** to Colorado, Wyoming and Utah to collect data on commercial coal leasing practice, which is necessary to assist in advising the department in the administration of the coal sections of the land leasing law. **M. R. Campbell** is inspecting co-operative work in the coal fields of Wise County, Va. **J. B. Eby** has returned from field work in the Wise County, Va., coal fields. **G. W. Stose** has gone to the Lebanon, Pa., coal field to study the relation of the limestone formations.

J. W. Noble, a life-long member of the city coal trade, has retired. He has in late years given most of his time to anthracite jobbing and retailing. He was formerly a member of Frank Williams & Co., coal operators and shippers, now retired.

Charles B. Ebbert, general manager of sales of the White Oak Coal Co., has returned after six weeks spent in England and France.

J. D. A. Morrow, vice-president of the National Coal Association, discussed current coal problems in an address before the Eastern Ice Manufacturers' Association on Nov. 11. The ice manufacturers held their annual convention at Atlantic City Nov. 10, 11 and 12.

Obituary

J. Howard Patton, well-known coal and coke man died recently in his home in Greensburg, Pa. He had been in poor health for some months. Mr. Patton organized the Claridge Coal Co. and directed its operations 20 years. Mr. Patton also was interested in many other concerns. At his death he was president of the Howard Gas Coal Co.

Arthur E. Hauck, president of the Hauck Manufacturing Co., manufacturer of oil-burning appliances, kerosene torches, furnaces, forges, Brooklyn, N. Y., died at his Flatbush home, Brooklyn, N. Y., recently.

Coming Meetings

West Virginia Coal Mining Institute will hold its annual meeting Dec. 7 and 8, at McLure Hotel, Wheeling, W. Va. Secretary, R. E. Sherwood, 1001 Kanawha Bank Building, Charleston, W. Va.

Coal Mining Institute of America will hold its annual meeting Dec. 8, 9 and 10, 1920, in the Chamber of Commerce Auditorium, Pittsburgh, Pa. Secretary, H. D. Mason, Jr., Chamber of Commerce Bldg., Pittsburgh, Pa.

Taylor Society will hold its annual meeting Dec. 2, 3 and 4 in the Engineering Societies Building, 29 West 39th Street, New York City. This society tends to promote the science and the art of administration and of management. Managing director, H. S. Person, 29 West 39th Street, New York City.

The Wholesale Coal Trade Association of New York, Inc., will hold its annual meeting in New York City Jan. 18, 1921. Secretary, Charles S. Allen, 90 West Street, New York City.

American Society of Mechanical Engineers' annual meeting will be held in the Engineering Societies Building, 29 West 39th Street, New York City, Dec. 7 to 10 inclusive. Secretary, Calvin W. Rice, 29 West 39th Street, New York City.